

भारतीय अन्तरिक्ष अनुसंधान संगठन
अन्तरिक्ष विभाग
भारत सरकार
अन्तरिक्ष भवन
न्यू बी ई एल रोड, बेंगलूर - 560 231, भारत
दूरभाष : +91 80 2341 5474
फैक्स :



Indian Space Research Organisation
Department of Space
Government of India
Antariksh Bhavan
New BEL Road, Bangalore - 560 231, India
Telephone : +91 80 2341 5474
Fax :

Dr K Ganesha Raj
Dy. Director, RESPOND



☎: 080-23415269/22172269
FAX-080-23412471
email:ddrespond@isro.gov.in

ISRO/RES/2/398/2014-15

October 30, 2014

Dear Dr. Nimmagadda Padmaja,

Subject: RESPOND Project - " MST Radar Signal Processing using Empirical Mode Decomposition and Hilbert Huang Transform"

This has reference to your submission of the above-mentioned research proposal for funding under RESPOND Programme. The domain experts in Department of Space have reviewed the proposal. I wish to inform you that, Chairman, ISRO/Secretary, DOS has approved the following:

1. Funding of the project under RESPOND Programme for a period of Two years at a total outlay of **₹14.36 Lakhs (Rupees Fourteen Lakhs and Thirtysix thousand only)** towards meeting the expenditure of the project.
2. Release of grant of **₹10.63 Lakhs (Rupees Ten Lakhs and Sixtythree thousand only)** towards meeting the first year expenditure of the project (budget details enclosed).

The approval is subject to fulfillment of the following conditions:

- (a) You will have to submit Annual Progress Report (APR), at the end of the first year, indicating the progress of the work accomplished during the first year. However, on conclusion of the project, you will have to send a comprehensive report covering total project activities. The copies of reports should be sent to Director, NARL, Tirupati (Attn: Dr S Sridharan, RESPOND Co-ordinator, NARL, Tirupati) and two copies to the undersigned.
- (b) You will have to submit two copies of the Fund Utilization Certificate (FUC) and Audited Accounts Statement (AAS) on completion of the first year of the project. On completion of the project, you have to send the final FUC and Audited Account Statement for the total expenditure incurred in the project. The FUC and AAS should be sent to the Pay & Accounts Officer, Department of Space, Antariksh Bhavan, New BEL Road, Bangalore 560231; Director, NARL, Tirupati (Attn: Dr S Sridharan, RESPOND Co-ordinator, NARL, Tirupati) with a copy to the undersigned.

भारतीय अन्तरिक्ष अनुसंधान संगठन / Indian Space Research Organisation

Letter of Support from Collaborating Industry

I have gone through the Project Proposal entitled **Design and Development of Micro Cantilever Based Biosensor for Early Detection of High Risk Human Papilloma Virus** submitted by **Dr.V.R. Anitha** of **Sree Vidyanikethan Engineering College** for **Biomedical Device and Technology Development (BDTD) - DST funding** and noted the obligations and responsibilities indicated in our name as stated below:

List of activities:

1. Providing Biosensor Microcantilevers on mutually agreeable commercial terms
2. Providing Prototype of the instrumentation for experimentation on mutually agreeable commercial terms

I hereby affirm that my Organization is committed to participate in the Project to the full extent indicated in the Project Proposal.

A summary profile of my Organization is given below:

Name of Organization : Nanosniff Technologies Pvt Ltd

Nature of Business : Fabrication of MEMS sensors and Associated Instrumentation

Number of Employees : 12

Annual Turn over : 44.96 Lakhs (in FY 2015-16)

For Nanosniff Technologies Pvt Ltd


Chief Technology Officer 

Date: 21st January 2017

Place: Mumbai

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Acceptance with Bio-data

I am happy to accept your invitation to collaborate in the project entitled "Design and Development of Micro Cantilever Based Biosensor for Early Detection of High Risk Human Papilloma Virus" and will lead into experimentation and field trials.

Name: Dr K.S. Rajkumar

Address: No. 12, Muruga Nagar, Kurichi, Sundarapuram Post, Coimbatore 641024, Tamil Nadu

Date of Birth: 05/12/1981

Institution's Address: Department of Surgical Oncology, Regional Cancer Centre, Coimbatore Medical College and Hospital, Coimbatore 641 018. Tamil Nadu.

Academic Qualifications (University/College from where attained, year of passing, class, Thesis title etc.)

	Period	Hospital/ Institution
M.B.B.S.	Aug 1999- Feb 04	Govt. Stanley Medical College, Chennai, India Tamil Nadu Dr. MGR. Medical University, Chennai, India
MS (Surgery)	Jul 2006- Jun 09	Post Graduate Institute for Medical Education and Research, Chandigarh, India
MCh (Surgical Oncology)	Aug 2011- Aug 14	Government Royapettah Hospital and Kilpauk Medical College, Chennai, India.

Publications list (Title of paper, authors, Journal details, pages, year etc.):

1. Revathidevi S, Manikandan M, Rao AK, Vinothkumar V, Arunkumar G, **Rajkumar KS**, Ramani R, Rajaraman R, Ajay C2, Munirajan AK. Analysis of APOBEC3A/3B germline deletion polymorphism in breast, cervical and oral cancers from South India and its impact on miRNA regulation. *Tumour Biol.* 2016 May 7. [Epub ahead of print]
2. Manikandan M, Deva Magendhra Rao AK, Arunkumar G, Manickavasagam M, **Rajkumar KS**, Rajaraman R, Munirajan AK. Oral squamous cell carcinoma: microRNA expression profiling and integrative analyses for elucidation of tumourigenesis mechanism. *Mol Cancer.* 2016 Apr 7;15:28.
3. Vinothkumar V, Arunkumar G, Revathidevi S, Arun K, Manikandan M, Rao AK, **Rajkumar KS**, Ajay C, Rajaraman R, Ramani R, Murugan AK, Munirajan AK. TERT promoter hot spot mutations



are frequent in Indian cervical and oral squamous cell carcinomas. *Tumour Biol.* 2015 Dec 23. [Epub ahead of print]

4. Manikandan M, Deva Magendhra Rao AK, Arunkumar G, **Rajkumar KS**, Rajaraman R, Munirajan AK. Down Regulation of miR-34a and miR-143 May Indirectly Inhibit p53 in Oral Squamous Cell Carcinoma: a Pilot Study. *Asian Pac J Cancer Prev.* 2015;16(17):7619-25.
5. Manikandan M, Deva Magendhra Rao AK, **Rajkumar KS**, Rajaraman R, Munirajan AK. Altered levels of miR-21, miR-125b-2*, miR-134, miR-155, miR-184, and miR-205 in oral squamous cell carcinoma and association with clinicopathological characteristics. *J Oral Pathol Med.* 2014 Dec 8
6. Rao AK, Vinothkumar V, Revathidevi S, Arunkumar G, Manikandan M, Arun K, **Rajkumar KS**, Ramani R, Ramamurthy R, Munirajan AK. Absence of the TP53 poly-A signal sequence variant rs78378222 in oral, cervical and breast cancers in South India. *Asian Pac J Cancer Prev.* 2014;15(21):9555-6.
7. Ramamurthy R, **Kottayasamy Seenivasagam R**, Shanmugam S, Palanivelu K. A prospective study on sentinel lymph node biopsy in early oral cancers using methylene blue dye alone. *Indian J Surg Oncol.* 2014 Sep;5(3):178-83
8. **Kottayasamy Seenivasagam R**, Gupta V, Singh G. Prevention of Seroma Formation after Axillary Dissection—A Comparative Randomized Clinical Trial of Three Methods. *Breast J.* 2013; 19(5): 478–84
9. Rajaraman R, **Rajkumar KS**, Subbiah S. Clear cell chondrosarcoma of distal femur - a case report. *TN Dr. MGR Medical University medEJ (May-Jun 2014 Vol-4 No - 3)*

Patent list, if any: NA

(Dr.K.S.Rajkumar)

Dr. B. Haranath

Retd. Principal M.S., (E.N.T.) D.L.O.
&
Additional Director, S.V.R.R. Govt. Hospital, TPT
Professor & HOD, E.N.T. Dept., S.V. Medical College.
President : A.P. Govt. Doctor's Asso. Tirupati Unit - 2006-08
President : AOI (ENT Surgeons), AP State - 2006-07
President : IMA Tirupati Branch 2008-09

Ph : 0877-2226575 (C)
0877-2231099 (R)
Office : 0877-2286666 Ext-ENT

Residence : Upstairs,
SWARNA E.N.T. SUPER SPECIALITY HOSPITAL
6-1-12A, Beside Old Maternity Hospital.
TIRUPATI - 517 507.

Date : 22 / 12 / 2016

To

The Principal

Sree Vidyanikethan Engineering College
Sree Sainath Nagar
Tirupati - 517 102.

Dear Sir

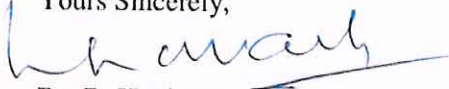
**Sub: Collaboration with Sree Vidyanikethan Engineering College in the project
"Frequency Modulated Hearing Aid for Elderly and Disabled" - reg.**

I am delighted to work as a Collaborator in the project entitled "Frequency Modulated Hearing Aid for Elderly and Disabled" applied to DST under TIDE program. I find the proposal very useful for disabled persons suffering from conductive and sensory-neural hearing loss.

In this regard, I am willing to extend my support in the project execution.

Thanking you.

Yours Sincerely,



Dr. B. Haranath
M.S., (E.N.T.) D.L.O.
Retired Principal and Additional Director,
S.V.R.R Govt. Hospital, Tirupathi.
Professor and Head,
E.N.T Dept.,
S.V. Medical College, Tirupathi.
Andhra Pradesh, India.



Dr.M.Saravanan . <hod_eie@vidyanikethan.edu>

Sree Vidyanikethan Engineering College Students Visit to NARL... on 02-09-2016

1 message

stvisits@narl.gov.in <stvisits@narl.gov.in>
To: hod_eie@vidyanikethan.edu

31 August 2016 at 09:45

Dear Sir/Madam,

Received a request from The Sree Vidyanikethan Engineering College , Addressed to The Director NARL.

Based on the approval of the request by Director NARL, We earmarked Friday, September 2, 2016 for 49 Students(max) and 2 faculty members' visit to NARL, as per the request

Administrative Officer, NARL is requested to kindly provide NARL entry pass for the staff and students of Sree Vidyanikethan Engineering College on the name of Mr. C. Ravindra Murthy , faculty member, along with 49 students and 2 faculty members as per the attached list for entry into NARL on, Friday, September 2, 2016, 9:30 hrs ,

You may be aware that, NARL is on Tirupati-Chittoor high way 35 km from both Tirupati and Chittoor.

As soon as the students bus reaches NARL main gate, The visitors will be asked to show identity cards and they have to deposit their electronic items at main gate. Kindly show our e-mail communications to collect the entry pass at NARL main gate at the time of visit.

The tentative agenda of the students visit program is as follows.

9:30- 10:00: Visit of Automatic Weather station, Flux tower, 50 m tower, (walking about 500m distance).

10:00-10:50: Power point presentation - NARL introduction. 10:50 Birds Eye view of NARL campus from Conference Hall terrace.

11:00- 12:30 Labs visits- High performance computer, LIDAR (Laser Radar), VHF (MST) Radar , L-band radar, Sodar - 20 min at each lab. [Students may come with lab shoes without laces, as footwear to be removed at each lab.]

13:00: Departure.

All the members are expected to come to NARL with identity card.

Electronic gadgets are not allowed in to NARL.

Lunch/Tea/coffee are not available at NARL for visitor groups.

For security reasons, NARL has CCTV monitoring coverage for all the campus.

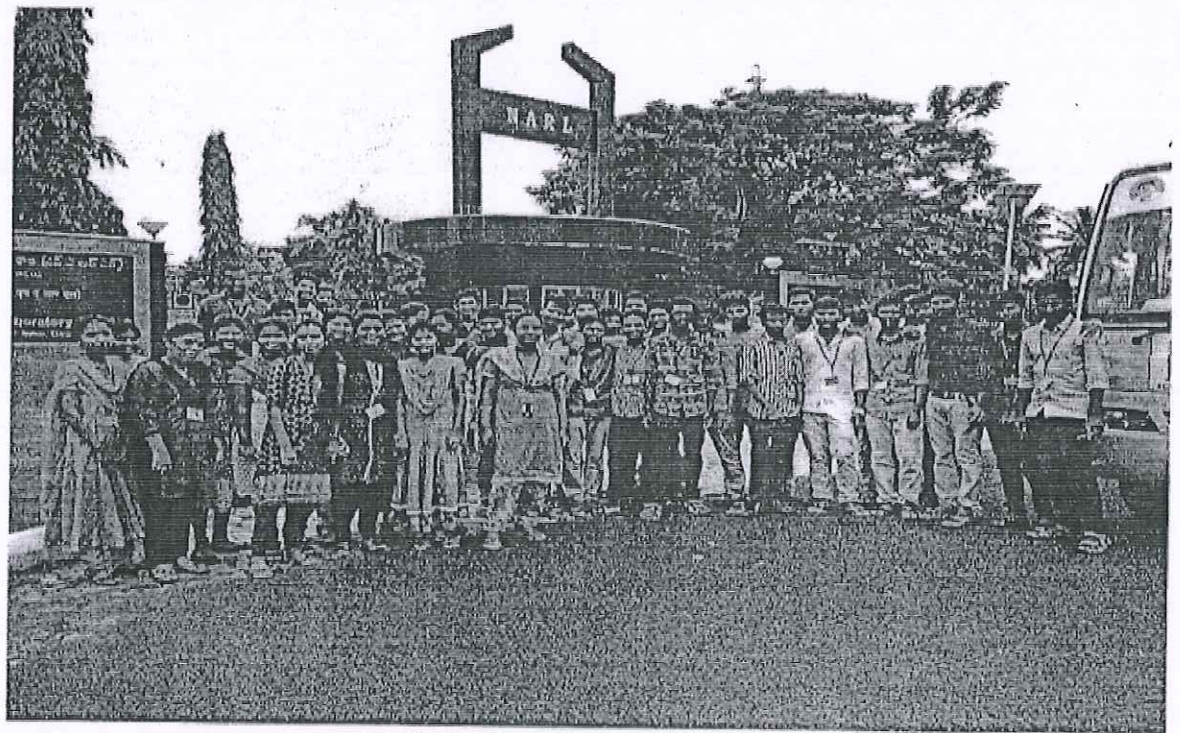
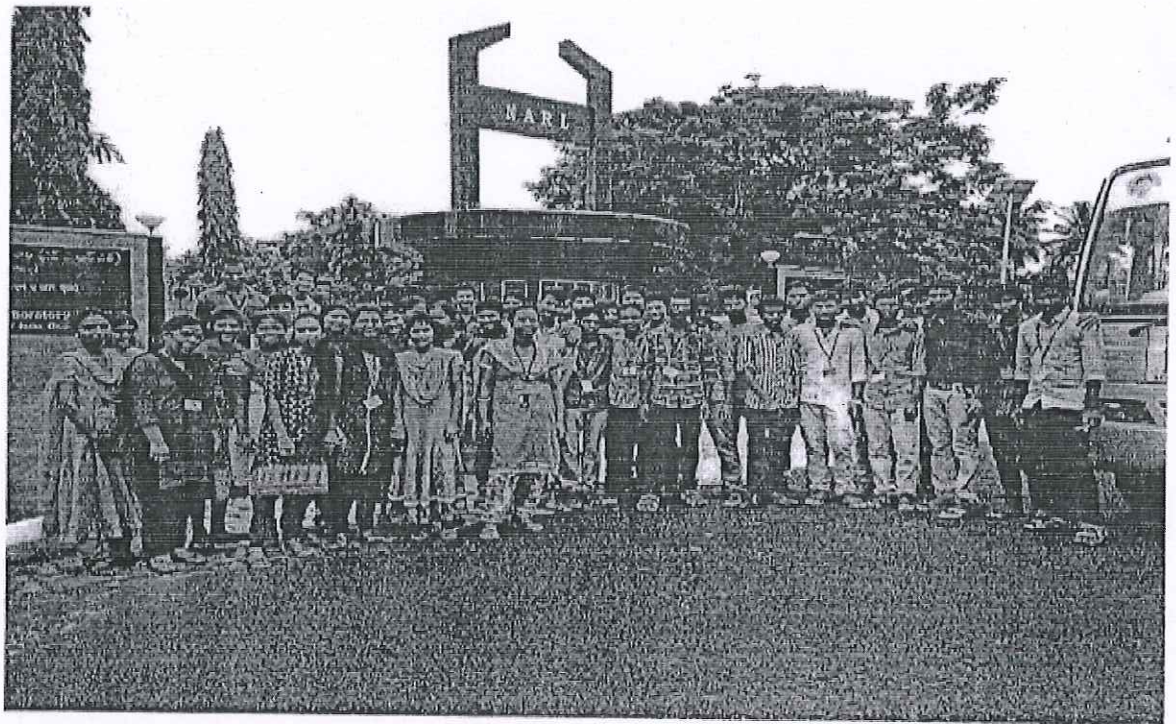
NARL has right to postpone or cancel the visit permission, in case of any unforeseen developments.

Kindly ensure the time adherence, as another institute students visit is planned after 13:00hrs

Thank you,

T Rajendra prasad
Scientist / Engineer - SE

08585 272003





SURENDRA
MULTI SPECIALITY HOSPITALS

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Date: 28/12/2016

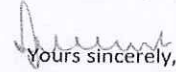
To
The Principal
Sree Vidyanikethan Engineering College
Tirupati – 517102.

Dear Sir,

Sub: Collaboration with Sree Vidyanikethan Engineering College in the project "Novel Electronic Device for Visually Challenged" – reg.

I am happy to work as a collaborator. My domain knowledge and practice in ophthalmology will be to support information on function of eye, disabilities and other medical information besides field trails in the project titled "Novel Electronic Device for Visually Challenged" applied to DST under TIDE program as I find the proposal is interesting and useful to the society.

Thanking you


Yours sincerely,

Dr. SURENDRA .S, M.D.(AIIMS) New Delhi
Vitreo-Retinal Surgeon
Regd. No: 19856
SURENDRA HOSPITALS
2-287, CHERLOPALLI
Opp: THATI THOPU
TIRUPATI-517 505, TA

2-287, Cherlopalli (Opp. Tatithopu), TIRUPATI - 517 502.
Ph : 0877 - 2248142, 6587888

www.surendrahospitals.in

properties that can be used in determining access control and it also helps in providing a reasonable degree of anonymity. Cloud Computing is one of the advancing technology that still undergoes many security issues. Ensuring the security of data that is stored in cloud is very challenging. But with gradual increment in technology, the quality of service is also a main issue. Services should be accurate up to date and secure. The current note is focusing on the security of data in cloud network, it calculates the current scenario and proposed the hybrid solution. The paper provides the idea implementation to secure the data in cloud. It provides hybrid secure solution which combines attribute based encryption with hashing function MD5.

A Novel Hyperspectral Image Segmentation Method

V. Saravana Kumar¹, K.S.Kannan¹, M.Kavitha²

^{1,2}Asst.Prof

¹Sree Vidyanikethan Engineering College, Tirupati, A.P.

²Jayamatha Engineering College, Nagercoil, Tamilnadu.

dhivyasaro5@yahoo.com,saikannan2012@gmail.com,veenakavitha55@gmail.com

ABSTRACT

Hyperspectral image analysis is a complicated and challenging task due to the inherent nature of the image. Here, we propose a new approach entitled as a novel method for segmentation of hyperspectral image. The preprocessing is, one band is picked out from the hyperspectral image and then converts into false color image. The JSEG algorithm is segregate the false color image properly without manual parameter adjustment and paraphrase texture and color.

Enhanced Secured Data Transmission with Spatial Reusability

S. Nirmal Sam¹, N.Rahul², A.Vikas²

¹Professor, ²Student

SRM University, Chennai-603 203, Tamil Nadu, India.

ABSTRACT

This paper is an enhancement of existing spatial reusability-aware single-path routing (SASR) and any path routing (SAAR), to use Hop by Hop Message authentication scheme for ensuring data confidentiality. We Propose SSAAR -Secure Spatial Reusability-Aware Routing with Enhanced Secure Data Transmission using Hopby-Hop Routing Algorithm. In the existing paper, the system investigated two kinds of routing protocols, including single-path routing and any path routing. The task of a single-path routing protocol is to select a cost minimizing path, along which the packets are delivered from the source node to the destination node, but it failed to consider security issues in it. The most vital way to prevent malicious, unauthorized and corrupted messages from being transmitted/ forwarded in Multi-hop wireless networks is message authentication technique. This is one of the main reasons that several message authentication schemes in the current



A Comparative Analysis of Histogram Equalization based methods on Diabetic Retinopathy Fundus Images

K. G. Suma
Assistant Professor
Dept. of Computer Science and Engineering,
Sree Vidyanikethan Engineering College, Tirupati, India

Dr. V.Kavitha
Associate Professor,
Dept. of Computer Science and Engineering,
University College of Engineering, Kanchipuram

Dr. J. Avanija
Associate Professor,
Dept. of Computer Science and Engineering,
Sree Vidyanikethan Engineering College, Tirupati, India.

B.Sangamithra
Assistant Professor,
Dept. of Computer Science and Engineering,
Sree Vidyanikethan Engineering College, Tirupati, India.

Abstract—Contrast enhancement is an essential step to improve the medical images for analysis and for better visual perception of diseases. Fundus images helps for screening and diagnosing the Diabetic Retinopathy. These images must be enhanced in contrast and the brightness should be preserved to view the features correctly. In addition, the fundus image should be analyzed by Histogram Equalization based methods to detect DR abnormalities effectively. In this paper, various image enhancements based on Histogram Equalization has been reviewed on fundus images and the results are compared using Image Quality Measurement tools such as Absolute Mean Brightness Error to assess brightness preservation, Peak Signal-to-Noise Ratio to evaluate the contrast enhancement, Entropy to measure richness of the details of the image. The results show that the Adaptive Histogram Equalization is the best enhancement method for the detection of Diabetic Retinopathy in fundus images.

Keyword—Diabetic Retinopathy, Fundus images, Histogram Equalization, Normalization, Brightness Preservation, Contrast Enhancement, Entropy, Image Quality Measurement.

I. INTRODUCTION

Image enhancement is a preprocessing step in image/video processing that is mainly used to increase the low contrast of an image¹. Contrast enhancement adjusts dark or bright pixels of an image to bring out the hidden feature in that image. Digital medical images help the professional graders in screening and diagnosing the diseases. Diabetic Retinopathy (DR) is a complication of Diabetes mellitus that affects the vision of the patient and sometimes leads to blindness. Fundus image captured by Fundus camera helps to analyze the anatomy of retinal part of an eye (blood vessels, macula, fovea, optic disc) and is used to monitor the abnormalities of Diabetic Retinopathy (microaneurysms, haemorrhages, soft and hard exudates, neovascularizations)².

Artifacts in fundus images are often a hurdle to detect the abnormalities. Charge Coupled Device in fundus camera might be a cause for the noise similar to digital images³. The electrical impulses of photoreceptors present in the retina travel towards the brain, so the optic disc looks brighter than the other

retinal regions. This bright nature of the optic disc impedes the detection of bright pixel DR abnormality within the optic disc. In addition reflex contraction of the iris to the flash from the fundus camera leads to blurred image³.

The contrast between the blood vessels present in fundus image and the retinal background is very low. Hence, the analysis of tiny retinal vasculature and retinal related abnormalities is difficult⁴. Therefore, the enhancement of retinal region in fundus image is important which provides better visualization of blood vessels and increases the accuracy to detect the abnormalities. Contrast enhancement based methods have been investigated in several papers in the past decades. Fadzil et al studied fluorescein angiogram image instead of fundus image and enhanced the contrast based on the retinal pigments using independent component analysis⁴. He concluded that Contrast Limited Adaptive Histogram Equalization is beneficial for vessel-based segmentation. Prashant et al proposed a method of enhancing the fundus image using Histogram Equalization with Cumulative Density Function (CDF) and performing threshold based segmentation for blood vessel extraction⁵. Rahim et al investigated three enhancement methods: Histogram Equalization, Contrast Limited Adaptive Histogram Equalization, and Mahalanobis Distance for fundus image⁶. They recommended Mahalanobis Distance as the best algorithm for blood vessel enhancement. Green plane of the fundus image presents the dark region with highest contrast against the background of the image. The extraction of green channel of fundus image is used as preprocessing step to detect the DR abnormalities^{7,8}.

Improving the contrast of fundus image with brightness preservation might lead to better visualization of smaller components and hidden features in the fundus image. This paper discusses and reviews the use of Bi-Histogram Equalization Based methods, Multi-Histogram Equalization Based methods and Clipped Histogram Equalization Based methods in fundus imaging and compared those using Image Quality Measurement tools.

(13)

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A.Rangampet-517102

DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING

SVEC/EIE/Industrial Visit/2013

20.11.2013

Submitted to the Principal

Sub: Request to give permission for hostel students – reg.

The following students of IV B.Tech I Semester EIE are visiting Bharathi Cement Corporation Pvt. Ltd., Kadapa on **21.11.2013 (Thrusday)**. In this regard, I request you to give permission for hostel students from **05.30 AM to 08.00 PM** on the above mentioned date.

Girls:

S.NO	NAME	ROLL NO
1.	B. Keerthana	10121A1009
2.	B. Haneetha	10121A1017
3.	G. Mounika (8688655014)	10121A1035
4.	B. Sowmya	10121A1011
5.	G. Sai Charitha	10121A1032
6.	A. Rajeswari	10121A1006
7.	H. Neeraja	10121A1036
8.	K. Sai Divya	10121A1051

Himaja — 8374885858

CAO

Pl. permit the above
students from 5-30 A.M to 8-00 PM
on 21/11/2013 & form-a

8-00 PM
CAO
HOD, EIE

20/11/2013

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padma choda <padmaja202@gmail.com>**[SIRS-2017] Invitation to serve as reviewer**

acn.conference@gmail.com <acn.conference@gmail.com>
To: Nimmagadda Padmaja <padmaja202@gmail.com>

Mon, Dec 26, 2016 at 10:32 PM

Dear Dr. Nimmagadda Padmaja:

You are invited to serve as TPC member for the Third International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'17) (SIRS-2017) - <http://www.acn-conference.org/sirs2017/>

Please indicate at the URL below whether you can serve on the TPC:
<http://edas.info/Tyn.php?tpc=999139319>

Your EDAS user name is padmaja202@gmail.com.

SIRS-2017 will be held in Manipal, Karnataka, India during Sept. 13-16, 2017. The venue of the Conference is Manipal University (<http://manipal.edu/mu/about-us.html>). Manipal is a suburb within the city of Udupi in Karnataka, India. Udupi is a popular pilgrimage centre and tourist spot. It is a land of ethereal beauty, sandwiched between the verdant mountains of the Western Ghats on the east and the vast, tranquil Arabian Sea on the west.

SIRS aims to bring together researchers from academia, industry and government and to provide an international forum for the sharing, exchange, presentation and discussion of original research results in both methodological issues and different application areas of signal processing and pattern recognition. The first and second editions were hosted by IIITM-Kerala, India. The proceedings are available online in SpringerLink digital library (<http://www.springer.com/gp/book/9783319049595> ; <http://www.springer.com/gp/book/9783319286563>)

Kind regards,

Chairs - SIRS'17
<http://www.acn-conference.org/sirs2017/>

18/1/14

Design, Simulation and Fabrication of Log Periodic Triangular Microstrip patch Antenna Array

Rajanarendra Sai* and G. Karthik Reddy**, R. Karthik**

ABSTRACT

This paper describes the design, simulation and fabrication of three element log-periodic triangular microstrip antenna array. A comparative study is presented between simulation and fabrication results. The three patches are fed by using inset feed line technique which are connected with a single transmission line by forming a log periodic array which operates over frequencies ranging from 2.9 to 3.4 GHz. The frequency response of the array is analyzed using the Zealands IE3D commercial software which implements the method of moments for showing Simulation results. The designed antenna is fabricated and tested, and a comparative study is made between simulation results and tested results.

Keywords: Log-periodic antenna, Triangular patch, Wideband, Microstrip.

1. INTRODUCTION

Printed Antenna technology is directed towards the miniaturization of antennas without losing the best performances. Its miniaturization character has made it possible to integrate them easily in transmission and reception systems. Microstrip patches are often used as single element antennas in certain applications, but in case of conventional microwave antennas, the requirement of characteristics such as beam scanning or steering capability, high gain, are possible only when discrete microstrip patches are combined to form arrays [1-2]. Advantages of microstrip antenna include inexpensive, easy to fabricate, conformable to planar and non-planar surfaces, low profile and they are versatile in terms of resonant frequency, impedance, polarization and pattern. Microstrip patch antenna presents a narrow bandwidth and weak gain, association in arrays makes it possible to compensate the single antenna limitations characteristic and to improve their gain and radiation performances. One of the Microstrip antennas disadvantages remains a narrow band-width. Various techniques have been proposed to improve the operational bandwidth of microstrip antennas. Another successful attempt to enhance the bandwidth of microstrip antenna was made by applying the log-periodic technique to design a microstrip array [3-4].

This paper describes the design, simulation and fabrication of three element log-periodic triangular microstrip antenna array. The proposed antenna has been designed by combining three patch elements by using the log periodic technique with the scaling factor of 1.05. IE3D software has been used to carry out the simulation for the log periodic antenna and the antenna is fabricated. After the simulations were completed, fabricated antenna results and simulation results were compared in terms of return loss.

2. ANTENNA DESIGN

The geometrical structure of the proposed three element triangular log periodic microstrip antenna with reconfigurability is as shown in Figure 1. This antenna can perform in frequency range from 2.9 GHz until

* Dept. of Electronics and Communication Engineering Sree Vidyanikethan Engineering College Tirupati, India,
Email: sai.rajanarendra@gmail.com

** Dept. of Electronics and Communication Engineering MLR Institute of Technology Hyderabad, India,
Email: karthik.r@mlrinstitutions.ac.in

Characterization of Tamarind Fruit Fibers (*Tamarindus Indica L.*) as Potential Alternate for Man-Made Vitreous Fibers in Polymer Composites

Binoj J S¹ Edwin Raj R^{2*} and Indran S³

¹Sree Vidyanikethan Engineering College, Andhra Pradesh, India

²St. Xavier's Catholic College of Engineering, Tamil Nadu, India

³Rohini College of Engineering and Technology, Kerala, India

*Email: redwinraj@gmail.com

Environmental degradation and its effects on human health due to unprecedented use of synthetic fibers, have been heavily felt by the fabricating workers and by the common people in general. The search to develop high-performance materials using environmental friendly natural fibers, is to be encouraged and needs comprehensive characterization. In this paper, discarded and polluting agrowaste from food processing industry, known as tamarind fruit fiber (TFF) is tested for its potentiality as a reinforcement in polymer composite. The extracted fibers are subjected to anatomical, physical, mechanical, morphological, thermal and chemical examination. The low density (1.27 g/cm³) provides high strength (1137-1360 MPa), better thermal stability (238°C) and superior bonding characteristics revealed by standard investigations promotes TFF as a promising natural fiber reinforcement for many composite applications. Low cost and competent performance can be achieved with this natural fiber when reinforced in polymer matrix.

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Journal of Magnesium and Alloys 7 (2017) 133–143
www.elsevier.com/locate/jmagal www.sciencedirect.com/journal/journal-of-magnesium-and-alloys/S015-9567



Full Length Article

Prediction and optimization of process variables to maximize the Young's modulus of plasma sprayed alumina coatings on AZ31B magnesium alloy

D. Thirumalaikumarasamy ^{a,*}, V. Balasubramanian, S. Sree Sabari

^a Department of Manufacturing Engineering, Anna University, Annamalai Nagar, Chudambaram 600 002, Tamil Nadu, India

Received 18 August 2016; revised 10 February 2017; accepted 10 February 2017

Available online 7 May 2017

Abstract

Like other manufacturing techniques, plasma spraying has also a non-linear behavior because of the contribution of many coating variables. This characteristic results in finding optimal factor combination difficult. Subsequently, the issue can be solved through effective and strategic statistical procedures integrated with systematic experimental data. Plasma spray parameters such as power, stand-off distance and powder feed rate have significant influence on coating characteristics like Young's modulus. This paper presents the use of statistical techniques in specifically response surface methodology (RSM), analysis of variance, and regression analysis to develop empirical relationship to predict Young's modulus of plasma-sprayed alumina coatings. The developed empirical relationships can be effectively used to predict Young's modulus of plasma-sprayed alumina coatings at 95% confidence level. Response graphs and contour plots were constructed to identify the optimum plasma spray parameters to attain maximum Young's modulus in alumina coatings. A linear regression relationship was established between porosity and Young's modulus of the alumina coatings.

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Keywords: Young's modulus; Plasma spraying; Alumina coating; Response surface methodology

1. Introduction

As a lightweight material for industry application, magnesium and its alloys possess attractive physical and mechanical properties, like low density, high specific strength and stiffness, high thermal conductivity, and excellent machinability [1,2]. These remarkable properties increase their potential application in the automotive, aerospace, electronics, and transportation industries [3]. Nonetheless, the main impediments against wider applications are undesirable properties including poor plasticity, heat resistance, abrasion resistance, and corrosion resistance. In particular, abrasion and corrosion are two of the most generally encountered industrial problems that result in the frequent replacement of some engineering components and lead to a rise in total costs [4]. These problems must be solved before the alloys are used in a wider scope of applications.

The use of coatings is one of the most effective methods to protect magnesium and its alloys against rapid failure in severe conditions. In order to further expand the application of magnesium alloys, surface modification techniques such as chemical conversion coatings [5], plasma electrolytic oxidation (PEO) [6], physical vapor deposition (PVD) [7] and laser surface treatment [8] have been applied to improve the surface properties of Mg alloy. It is well known that magnesium and its alloys possess such high chemical activity and poor abrasion resistance compared to a majority of surface techniques that cannot provide long-time protection in diverse and complex service environments.

Plasma spraying is a cost-effective technique to deposit thick coatings on metal substrates starting from micron sized powder [9]. In such process the powder particles are injected into a high-temperature plasma jet, melted and accelerated toward the substrate. When impacting on the substrate surface, they are flattened and quenched, thus producing the build-up of a coating with a layered microstructure containing typical defects such as pores with different sizes, splat boundaries and microcracks. The high deposition rate of the plasma spraying process involves shorter manufacturing times and lower costs [9].

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Comparison of Artificial Neural Networks (ANN) and Response Surface Methodology (RSM) Modeling Approaches in Predicting the Deposition Efficiency of Plasma Sprayed Alumina Coatings on AZ31B Magnesium Alloy

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Modern industrial technologies call for the development of novel materials with improved surface properties, lower costs and environmentally suitable processes. Plasma spray coating process has become a subject of intense research which attempts to create functional layers on the surface is obviously the most economical way to provide high performance to machinery and industrial equipments. Plasma spray parameters such as power, stand-off distance and powder feed rate have significant influence on coating characteristics like deposition efficiency. Two methods, response surface methodology and artificial neural network were used to predict the deposition efficiency of plasma sprayed alumina coatings on AZ31B magnesium alloy. The experiments were conducted based on three factors, five-level, and central composite rotatable design with full replication technique, and mathematical model was developed. A linear regression relationship was established between porosity and deposition efficiency of the alumina coatings. The results obtained through response surface methodology were compared with those through artificial neural networks.

Keywords: Deposition Efficiency, Plasma Spraying, Alumina Coating, Response Surface Methodology, Artificial Neural Network.

1. INTRODUCTION

Owing to the inherent superior properties, such as high strength to weight ratio, good dimensional stability, electromagnetic shielding and damping characteristics, good machining and recyclability, a great attention is being paid to magnesium alloys in a wide range of industries in recent years, especially in automotive, aerospace and communication sectors.^{1,2} On the other hand, the application of magnesium alloy has been restricted due to the poor surface property. In order to further expand the application of magnesium alloys, surface modification methods such as chemical conversion coatings,³ plasma electrolytic oxidation (PEO), physical vapor deposition (PVD) and laser surface treatment^{4,5} have been applied to improve surface properties of Mg alloy.

Plasma spraying is a cost-effective technique to deposit thick coatings on metal substrates starting from micron sized powders.⁶ In such process the powder particles

are injected into a high-temperature plasma jet, melted and accelerated toward the substrate. When impacting on the substrate surface, they are flattened and quenched thus producing the build-up of a coating with a layered microstructure containing typical defects such as pores with different size, splat boundaries and microcracks. The high deposition rate of the plasma spraying process involves shorter manufacturing times and lower costs in comparison with the most expensive electron beam physical vapor deposition (EB-PVD) process.

Ceramic coatings are commonly found for thermal and environmental protection of metal components operating at severe working conditions. Their application is able to enhance the resistance and the durability of the underlying components, thus reducing the replacement of worn out parts and the related idle times. One of them, Al₂O₃ coatings are good candidates for anti-wear and anti-corrosion applications, owing to their high hardness, chemical inertness and high melting point, as well as to their high resistance to abrasion and erosion.⁷ The microstructure and the mechanical properties of the coating are affected by

RESEARCH ARTICLE

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Recent Development of Laser Based Treatment on Titanium Alloys: From Coating to Treatment – A Review

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Abstract – The tribological properties, its specific, oxidation and hot corrosion behavior were found to be a dominant property to improve the surface characteristics of titanium alloys and many researchers tried different methods to improve it. In order to achieve a better coating, there are numerous surface treatment techniques have been performed. The techniques, such as nitriding, carburizing, oxidation, physical vapor deposition (PVD) and chemical vapor deposition (CVD) executed to improve the surface properties of titanium alloys. In addition to this, laser was also used in surface modification. The coatings made by laser techniques exhibited strong metallurgical bonding with the substrate materials, owing to their high energy density. It was also found that the technique satisfied the industrial requirements for all applications.

Index Terms— Microhardness, Laser Surface Melting, Laser Metal Deposition, Microstructure, Ti6Al4V.

I. INTRODUCTION

Titanium is the most significant metal of major industrial applications. The exceptional properties of titanium alloys incorporate high strength and astonishing erosion resistance. Titanium alloys are found in aviation applications where the mix of quality and corrosion resistance is unavoidable. The one of the major utilization for titanium alloys is in the aviation gas turbine motor compressor blades. The compressor disks and blades of the first stages are used at low temperatures about 300°C (low pressure compressor) are made from Ti-6Al-4V, a titanium alloy [1]. Ti-6Al-4V is extensively used alloys in aero engine turbine blades. These aero engine blades, after thousands of operating hours are mostly encountered fatigue and creep which are reducing the actual service life of the component. The blades subjected to wear and fretting are most of the times getting replaced rather than refurbished [2]. There are extensive research work to improve the material properties through various coatings, in order to the service life of Inconel 718 and Ti-6Al-4V [3].

II. COATING ON TITANIUM ALLOYS

The tribological properties of pure titanium (cp-Ti) was improved by deposition of Ti-Si-N coating through laser (LENS) processing [4]. The evaluated microstructures were evidenced in the coating along with in-situ shaped stages. The dendritic microstructure of the coatings was greatly influenced

by the Si, as accumulation of Si impacted the solidification behavior of the melt pool. Increase in Si accelerates the solidification rate and in this way it prompted to better and more discernable densities. This influenced the mechanical properties of the deposited region. The experiment further demonstrated that the changes in microstructural varieties and phase impacted on hardness and wear resistance specifically. The top surface of the coating exhibited with higher hardness qualities and the same was reported in all specimens. Besides, the sample without Si had relatively high wear rate and it was reported that Si enhanced the tribological execution of the coatings.

Similar performance improvement was achieved with nanocomposite deposition WC1-x/C on titanium alloys is depicted in figure 1 [5].

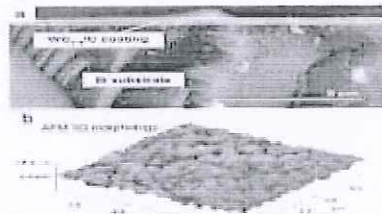


Fig. 1. Nanocomposite deposition WC1-x/C (a) SEM image of coating (b) AFM morphology [5].

RESEARCH PAPERS

A STATISTICAL GA BASED DEMAND FORECASTING MODEL FOR AUTOMOTIVE BATTERIES MANUFACTURING COMPANY

By

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ABSTRACT

Demand planning is an integral part of any planning process. Accurate forecasts help firms effectively plan the production process so that inventory levels in the supply chain can be optimized and supply can be matched closely with demand. Demand planning can also help the marketing department of a firm to decide upon the kind of promotional exercises required for particular product. Planning accurately leads to better distribution planning as well. Since firms can determine the exact levels of inventory to be held at each distribution center, in this paper an attempt was made to forecast the demand of Automotive Batteries. Three different methods of forecasts have been used. After applying these methods, finally the mean square error was minimized and assigned the optimum weights to the forecasts by the different methods and found the resultant forecast combining all the forecasts. A suitable tool for the optimization was chosen. Here, Genetic Algorithms have been chosen for obtaining optimal weights that are assigned to forecast methods to generate a model of the forecast with minimum mean square error. An extensive computational experience has been reported. The proposed methodology has been put in to use in the firm for better forecast of the demand.

Keywords: Forecasting Techniques, Statistical Methods, Genetic Algorithm

INTRODUCTION

A forecast is an estimate of an event which will happen in future. The event may be demand of a product, rainfall at particular place, population of a country, or growth of a technology. The forecast value is not a deterministic quantity. Since it's only an estimate based on the past data related to a particular event, proper care must be given in estimating it. Demand planning can also help the marketing department of a firm to decide upon the kind of promotional exercises required for particular product. Planning accurately leads to better distribution planning as well. Since firms can determine the exact levels of inventory to be held at each distribution center,

Forecasting may reduce decision risk by supplying additional information about the possible outcomes. Once the data have been captured for the time series to be forecast, the task is to select a model for forecasting. Various statistical and graphic techniques may be useful to the analyst in the selection process. The best place to start

with any time series forecasting

Analysis is to graph sequence plots of the time series to be forecasted. A sequence plot is a graph of the data series values, usually on the vertical axis, against time usually on the horizontal axis. The purpose of the sequence plot is to give the analyst a visual impression of the nature of the time series. After the model is identified, its performance characteristics should be verified or validated by comparison of its forecasts with historical data for the process it was designed to forecast. Several methods of time series forecasting are available such as the Moving Averages Method, Exponential Smoothing etc. The following methods have been used in this study are winter's Multiplicative Method, Moving Average and Exponential Smoothing.

Here, the objective is to suggest and implement an effective method for forecasting the After Market demand of Automotive Batteries and to synchronize and achieve efficiency and effectiveness between demand and supply and create competitive edge.

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The performance and exhaust emissions investigation of a diesel engine using $\gamma\text{-Al}_2\text{O}_3$ nanoparticle additives to biodiesel

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Experimental Studies on the Performance, Combustion, and Emission Characteristics of Low Heat Rejection CI engine fuelled with M.Elangi Methyl Ester

First A. R.L. Krupakaran, second B. T. Hariprasads, Third C. A. Gopalakrishna and fourth Dhinesh.B

Abstract— To compensate for rapid exhaustion of diesel fuels and also to reduce the pollution levels emitted by Diesel engine, Researchers all around the world are investing continuous efforts to find alternate fuel. Use of M.Elangi Methyl Ester [MEME] 20% and 80% Diesel with 25ppm TiO₂ [MEME20+25ppm] nanoparticle additive as fuel blend is considered as an alternative way to reduce emissions at the same time without modifying any engine-operating parameters. Investigations are carried out in evaluating the performance of a low heat rejection (LHR) Compression ignition engine consisting of insulated piston with 350 µm super Ni (an alloy of nickel) crown. The pistons of the test engine were coated with yttria stabilized zirconia + Na₂O₃ (5% yttria + 2% Niytodium oxide + 93% Zirconia oxide) layer 200 µm thick over a nickel-chromium-aluminium bond coat of 150 µm thick using the atmospheric plasma spray coating method. The results of the engine tests have shown that, with MEME 20 + 25ppm, the brake thermal efficiency was increased by 7.06%, and the specific fuel consumption was decreased by 16.388% when compared with diesel. The CO, HC, and smoke values reduced by 35.66%, 31.8% and 19.66% compared with diesel fuel. The NO_x and EGT was increased by 22.23% and 9.33% at full load conditions at 1500 rpm constant speed.

Keywords—M.Elangi Methyl Ester, TiO₂ nanoparticle, LHR, performance and Emissions.

1. INTRODUCTION

Now-a-days, increase of Population led to increase in usage of vehicles at an upsetting rate and thereby rise in pollution levels. Fast exhaustion of diesel fuels is an alarming threat as diesel fuel is not only used in transport sector but also in agriculture sector. Thus, efficient fuel utilization has become more important for the engine manufacturers, users and researchers involved in the combustion research. From the

literature it was observed that 30% of the supplied energy is carried away by the coolant and the 30% heat is lost in the form of exhaust gases, friction, etc., leaving only 30% of energy to be utilized for useful work. For obtaining better durability and reliability in advanced CI engines for hot-section metal components and also to increase the performance of CI engine, thermal barrier coatings (TBCs) were applied on the piston crown, cylinder head, valves, cylinder liner, and exhaust port. TBCs consist of a metallic bond coat and a stabilized zirconia top coat which gives a thermal barrier.

In [1-4], Sidhua, B. S., Zhou, H., Yi, D Parlak, A., Uzun observed that, because of the low thermal conductivity of the coating, the use of TBCs can result in a substantial decrease in temperature between hot gas and the components of the engine body. TBCs applied CI engines are called LHR engines, which reduce heat transfer between hot gases and the cylinder wall. Krishnan et. al. [5] and Wade et al. [6] observed that, the use of diesel as fuel with ceramic-coated component resulted in improvement of thermal efficiency. Miyuki [7] with a two-zone combustion model and Rafiqul Islam et al [8] using a computer simulation model predicted the performance of the ceramic-coated direct injection (DI) diesel engines. Parlak et al [9-11] presented advantages of LHR engines in various aspects and also observed that, without change of engine power and decreasing the compression ratio from 18.20 to 16.20, NO_x emission of an LHR diesel engine can be reduced to 14 percent. Kawamura et al. [12] focused on optimizing engine-operating parameters: injection timing, injection pressure, and EGR application.

The purpose of this study is to improve the performance and reduce the emissions of LHR diesel engine without modifying engine operating parameters. This is achieved by coating the piston with high-temperature-resistant ceramic material using atmospheric plasma spray method. M.Elangi Methyl Ester 20% and 80% Diesel with 25 ppm TiO₂ [MEME20+25ppm] nanoparticle additive as fuel blend with thermal Barrier coating (TBC) was used for this study.

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Experimental Studies on the Performance of Thermal Energy Storage System by using Variable (Solar Energy) Heat source

HariPrasad Tarigonda, Meenakshi Reddy, R., and Krishnamachary, P.C.

Abstract— Thermal energy storage systems using solar energy is used to store the heat energy supplied to it for a considerable time period and give the energy back when ever need arise. The solar flat plate collector is integrated with the thermal energy storage system to store the energy. Diverse materials can be used in solar thermal energy storage system to store heat energy. In the present work, experimental studies are carried out on solar thermal energy storage system using Iron scrap + PCM filled in Spherical capsules as phase change material and compared the performance of the system with Stearic acid phase change materials. The PCMs are used in the form of spherical capsules made up of high density poly ethylene (HDPE). Charging time and amount of heat energy recovered are studied for the PCMs mentioned above and compared. The performance of solar thermal energy storage tank is studied with variable Heat source (solar flat plate collector) for different flow rates i.e.2,4,6 ltr/min. the results showed that with 6 ltr/min flow rate the thermal energy storage system tank is charged to 70°C temperature in 204 min whereas for 2 ltr/min flow rate the TES tank is charged to 70°C in 254 min. The total heat capacity of TES tank at 70°C is around 16,400 KJ. The output hot water at an average of 45°C is around 64 liters so it means the heat energy recovered from the TES tank is around 32 %. The system with Iron scrap + PCM filled in Spherical capsules able to give 25% of hot water Extra than the Same Capacity sensible heat storage system.

Keywords— Solar Energy, Thermal Energy Storage System, Phase change material, Iron scrap, Stearic acid.

1. INTRODUCTION

THE increase in demand for energy in the society, shortages of fossil fuels and environmental impact made to show more interest on the development of renewable energy sources such as solar, biomass and wind technologies. As the solar energy, being non polluting, clean and in exhaustible has received wide attention among the scientists and engineers. There are many advantages in the solar energy it is time dependent. The energy needs for a wide variety of applications

are also time dependent, but in a different pattern and phase from the solar energy supply. This made to develop the solar energy based device or utility to match dynamically both at the source point and the application point. Once the characteristics of end-use demand and the nature of energy source option are known, the total demand and supply in the time domain have to be brought together through the integration of an efficient energy storage and distribution network hence to commercial acceptance and economics of solar thermal systems are tied to the design and development of efficient thermal energy storage (TES) systems. Literature review has been carried out on the history of thermal energy storage using SHS and LHS concepts in PCM materials. Abe et al (1984) developed a direct contact LHS unit using formstable HDPE rods as PCM and performed series of experiments for different flow rates, PCM initial temperatures and HTF (Ethylene glycol) inlet temperatures to study the charge and discharge characteristics of the storage unit on a lab scale. Chow et al (1996) have evaluated two thermal conductivity enhancement techniques. The first technique focuses on placing PCM in capsules of various shapes in a liquid metal medium. Keumnam Cho and S.H. Choi [2000] performed experiments to study the thermal characteristics of PCM in a spherical capsule. In this study paraffin (i.e., n-tetradecane, and a mixture of n-tetradecane (40%) and n-hexadecane (60%)) was used as PCM and water as HTF. Joishi et al (2001) described the role of thermal contact resistance in a high-temperature SHS water heater using cast iron as a storage material. It was observed that the variation in thermal contact resistance between the cast iron blocks and tube plays a dominant role in extracting the heat at a reasonably constant temperature. Wang et al (2001) studied the charging process of a cylindrical LHS capsule with stearic acid, sliced paraffin and lauric acid as PCMs. Experimental results demonstrate that, compared to the capsule with single PCM, the charging rate of the capsule employing three PCMs enhanced obviously. K.T. Adref et al. [2002] investigated the dynamic behavior of single spherical thermal storage elements (ice) experimentally using glass spheres. The authors studied the effects of the HTF temperature and the size of the capsule on the energy rate for charging and discharging from a single spherical enclosure. Darba and spiga [2003] studied the performance of TES system using salt hydrates as PCM in different shapes of containers. Results showed that the

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Performance analysis of Homogeneous Charged Compression Ignition (HCCI) Engine with external mixture formation of different bio diesel fuels

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Abstract

To modify the conventional Diesel engine in to Homogeneous Charge Compression Ignition (HCCI) Engine with external mixture formation technique adopted as Port fuel injection (PFI). In CI engines, NO_x is formed in very hot zones with close to stoichiometric conditions and soot is formed in the fuel rich spray core. Performance of compression ignition and HCCI engines are varied by three different bio-diesel fuels with variation of compression ratio and exhaust gas recirculation (EGR) is operating at variable loads of fuel ratios are observed that NO_x reducing up to 90%, heat releasing rate and pressure inside the chamber is less than conventional engine. Reducing the NO_x up to 99 % by using the 3 way catalytic converter to achieved.

Key Words: HCCI Engine, EGR, Bio-Diesel fuels.

1.1 Introduction:

The automobile are having the major role on the atmospheric pollution in global warming [7]. Particularly diesel engines are produced

high oxidises NO_x and smoke emissions with consuming more amount of fuels [1-2].

Homogeneous charge compression ignition (HCCI) is alternative combustion engine to reduce the NO_x and Particulate Matter (PM) emissions and also improve the thermal efficiency of the engine. HCCI engine combustion is both the SI engine and CI engine, mixture preparation is homogeneous and combustion take place in similar to the CI engine. The HCCI combustion take place multi points in the combustion chamber during the end of the stroke without flame front. Control the start up combustion duration of HCCI engine is controlled by diluting of the exhaust gas recirculation (EGR).

HCCI combustion achieved premixed combustion, highly diluted, very lean mixture to self ignition, inlet air temperature control. Avoid combustion noise and decreases the burn rate with highly diluted mixture HCCI some difficulty to be solved for efficient working of HCCI engine such as homogeneous.

Conventional diesel combustion is a heterogeneous process from both temporal

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Investigation on Ti6Al4V laser metal deposition using Taguchi based grey approach

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Abstract

An optimization of laser metal deposition process considering tensile strength, clad hardness, clad grain size and clad porosity as performance characteristics were investigated. The influence of laser power and laser scan speed on the thermal gradient and cooling rate with regard Ti6Al4V powder coating on Ti6Al4V substrate was focused. Taguchi's experimental design approach is employed for planning the experiments and analyzing the dependency of input variables on desired performance measures such as micro hardness, tensile strength, porosity and grain size. The laser scan speed is found as the dominant factor on the clad hardness while laser power has the influencing effect on grain size of the substrate. GRA is opted for determining the multi performance machining characteristics of laser metal deposition process. The experimental outcomes reveal that the proposed method of multi objective optimization considerably enhances the multi performance machining characteristics.

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Keywords: Laser metal deposition; Grey relational approach; Thermal gradient; Laser scan speed; Grain size; Ti6Al4V

1. Introduction

Ti6Al4V alloy has high strength to weight ratio and good in thermal resistance due to its unique properties the material is extensively recommended for aerospace, nuclear and energy applications [1-3]. However, the material

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Machinability Studies on CNC Turning of PH Stainless Steel with Coated Inserts

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Abstract

In this present study, the machinability analysis of peak aged PH stainless steel was studied for various machining process parameters. Cutting speed, feed rate and nose radius with three levels were the process parameters considered for this experimental study. Machinability performance measures such as cutting force, surface roughness and micro-hardness were analyzed. The experiments were conducted based on full factorial design and the experimental results revealed that the feed rate is the most influencing parameter that affects the desired performance measures followed by the cutting speed. The variation in nose radius exhibited less effect on micro-hardness. The hardness on the machined surface was high up to a certain depth and there was reduction in hardness at the subsurface and finally reached the base metal hardness. Higher cutting speed and lower feed rate favors the better surface finish and reduces the cutting forces significantly while the tool insert with higher nose radius improved the surface finish.

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Keywords: PH stainless steel, CNC, Cutting Force, Surface Roughness, Micro Hardness

1. Introduction

Stainless steels have poor machinability compared to regular carbon steel because they are tougher, adhesive and tends to work harden very rapidly. The slightly hardened steel may decrease its adhesiveness and make it easier to machine. Precipitation Hardened (PH) stainless steels use chromium & nickel as their major alloying elements and are a combination of the martensitic and austenitic alloy types. 15-5 PH stainless steel contains around 15 % of chromium and 5% of nickel as its major constituent elements along with small content of copper as its precipitates in its structure [1]. PH stainless steels can be hardened by aging treatment to provide high strength and toughness. Hardening of stainless steel can be achieved by addition one or more of the elements copper, aluminum, titanium, niobium and molybdenum. The hardened PH steel is termed under the category of hard-to-machine material [2]. The age hardening behaviour and microstructure transformation of 15-5 PH stainless steel were analysed. It was stated

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Microstructure Analysis and Evaluation of Mechanical Properties of Al 7075 GNP's Composites

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Abstract

In the present study, the microstructure and mechanical properties of aluminium 7075 Graphene Nano platelets (GNP's) composites were investigated. The contents of Graphene Nano platelets were varied from 0.50 to 2 wt. % in aluminium 7075 matrix. The composites were fabricated through stir casting technique, and the experimental results revealed that Al 7075-1.5 % GNP's composite showed better mechanical properties compared with Al 7075 - 0.50% GNP's, 1.0 %GNP's and 2% GNP's composites. The SEM and Fractography analysis and XRD results confirms that there is a considerable improvement in the mechanical properties of Al 7075-1.5 % GNP's compared to other weight percentages.

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Keywords: Aluminium 7075 –Graphene Composites, Stir Casting, Tensile Strength,

1. INTRODUCTION

Metal Matrix Composites (MMCs) are playing a significant role in applications of material sciences. Aluminium MMCs are preferred to other conventional materials in the fields of aerospace, automotive and marine applications owing to their improved properties like high strength to weight ratio, good wear resistance etc. Combining high specific strength with good corrosion resistance, metal matrix composites (MMCs) are materials that are attractive for a large range of engineering applications. Given the factors of reinforcement type, form, and quantity, which can be varied, in addition to matrix characteristics, the composites have a huge potential for being tailored for particular applications. Graphene has remarkable mechanical properties, which makes it hypothetically a good reinforcement in metal composites. It also has exclusive optical and thermal properties, which make it striking filler for producing multifunctional composites especially in case of metal matrix composite due to its viability and outstanding

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Effect of Textured Tools on Machining of Ti-6Al-4V Alloy under Lubricant Condition

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Abstract

In this work, an attempt is made to reduce the detrimental effects that occurred during machining of Ti-6Al-4V by employing the textures on the rake faces of the cutting tools. Turning experiments on the Ti-6Al-4V alloy were carried out using textured tungsten carbide tools with micro-scaled grooves in preferred orientation such as, parallel, perpendicular and cross pattern to that of chip flow. A mixture of molybdenum disulfide with SAE 40 oil (80:20) was used as semi-solid lubricant during machining process. The feed, thrust and cutting forces were measured by a three component Kistler-dynamometer. The power consumption during machining was measured using Fluke 43B type power meter. Experimental results such as machining forces and power consumption were analyzed and compared. From the observation, cutting tools with textures produced in a direction perpendicular to that of chip flow exhibits a better in all the results aspects.

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Keywords: Textured tool; Power; Friction; Ti-6Al-4V

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76. OPTIMIZATION OF LASER METAL DEPOSITION PROCESS PARAMETERS USING TAGUCHI-BASED GREY APPROACH FOR Ti6Al4V ALLOY COATING

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ABSTRACT

An optimization of laser metal deposition process considering tensile strength, clad hardness, clad grain size and clad porosity as performance characteristics was investigated. The influence of laser power (1500W and 1750W) and laser scan speed (500 mm/min and 600 mm/min) on the thermal gradient and cooling rate with regard Ti6Al4V powder coating on Ti6Al4V substrate was focused. Taguchi's experimental design approach is employed for planning the experiments and analyzing the dependency of input variables on desired performance measures such as micro hardness, tensile strength, porosity and grain size. The laser scan speed is found as the dominant factor on the clad hardness while laser power has the influencing effect on grain size of the substrate. Grey Relational Approach (GRA) is opted for determining the multi performance machining characteristics of laser metal deposition process. The experimental outcomes reveal that the proposed method of multi objective optimization considerably enhances the multi performance machining characteristics.

Keywords: Laser metal deposition, Grey relational approach, Thermal gradient, Laser scan speed, Grain size, Ti6Al4V.



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Application of Taguchi based Grey Method for Multi Aspects Optimization on CNC Turning of AISI7 Mg

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Abstract:

In this present exploration a multi objective optimization method is proposed for CNC turning of AISI7Mg for determining possible machining parameters to obtain the better machining performance. Taguchi's design of experiments approach is employed for planning the experiments. An L27 orthogonal array has been opted for conducting experiments. Spindle speed, feed rate and depth of cut are considered as the input process variables. Material removal rate and surface roughness are the desired performance measures in this investigation. Taguchi's S/N ratio analysis is used for analyzing the influence of independent process variables. The Grey Relational Analysis is used for obtaining the better multi performance machining characteristics. The experimental outcomes reveal that the proposed method of multi objective optimization considerably enhances the multi performance machining characteristics.

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Keywords: AISI-Mg; CNC Turning; Multi objective optimization; Taguchi's experimental design approach; Grey relational analysis.

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Prediction of Performance Measures in Spark Erosion Machining of Haste Alloy Using Multiple Regression Analysis

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Abstract

Electrical Discharge Machining (EDM) has the capability of machining complicated shapes in electrically conductive materials independent of hardness of the work materials. The need for decision making is increasingly important in the any manufacturing domain because of making high quality products and rapid changes in design. This present article details the development of multiple regression models for envisaging the material removal rate (MRR) and roughness of machined surface in Electrical Discharge Machining (EDM) of Haste Alloy C276. The experimental runs are devised as per Taguchi's principles and empirical relations are established using multiple regression analysis. Taguchi's methodology can be applied as a single aspects optimization technique for attaining the best set of possible process parameter for material removal rate and roughness of the machined surface. A statistical tool called Analysis of variance (ANOVA) is employed for determining the significance of input process variables that influences the desired performance measures such as material removal rate and roughness of the electrically machined surface. The developed multiple regression models are flexible, competent and precise in prediction of desired performance measures. The developed regression models were validated and the predicted results from the evolved regression models are closer with the experimental outcomes.

Keywords: Electrical Discharge Machining (EDM), Taguchi's Design approach, Haste Alloy, Analysis of Variance (ANOVA), Regression Analysis.

1. INTRODUCTION:

Superalloys are heat resistant and the mechanical and chemical properties of the materials are remains unchanged during high temperature applications [1, 2]. The properties of Superalloys such as high strength and hardness, lower thermal diffusivity makes them as hard to machine materials [3-5]. High strength and high hardness of these materials results in poor performance in machining and more tool wear by traditional machining processes. So there is a necessity to find a solution for machining of these super alloys which are electrically conductive hard materials by using unconventional material

removal processes. Electrical Discharge Machining (EDM) is one among the available advanced machining process most commonly employed for machining the components that are used in automobile, aerospace and biomedical industries [6]. A continuous repeated electrical discharges between the tool (electrode) and the work material, results in removal of material from the work piece in the dielectric medium [7, 8]. The tool moves towards the workpiece until the gap between the electrode and work material is close enough to ionize the dielectric fluid with the help of supplied voltage. The electrode and the work material are separated by the short duration discharges in dielectric gap. The removal of material in work piece happens due to the erosive action. The material is removed with irrespective to the material hardness. The graphical representation of EDM process is given in Fig.1 [9].

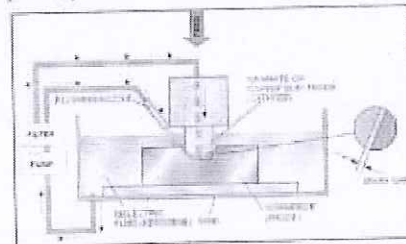


Fig.1. Schematic of Electrical Discharge Machine

An exploration on EDM drilling of nickel alloy detailed the importance of supplied current and same is the important process variable for obtaining the rate of material removal [10]. The plan of experiment is most important to determine the importance of the process parameters. Taguchi's experimental design method is a powerful approach for planning the experiments and to solve the single objective optimization problems. The machining performance and influence of process variables are detailed by various researchers on EDM process [11-13]. Ulas Caydas and Ahmet Hascaliik [14] presented an experimental analysis to predict the roughness of machined

56. INVESTIGATIONS ON ELECTRICAL DISCHARGE MACHINING OF HASTE ALLOY C276 USING TAGUCHI APPROACH

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ABSTRACT

Nickel-based superalloys are commonly employed in numerous engineering applications such as gas turbine, nuclear reactor and aerospace industries. The nickel based superalloys are very difficult to machine with the help of conventional machining methods. Electrical Discharge Machining (EDM) is an appropriate unconventional method used for machining such kind of difficult to machine materials. This present investigation details the determination of best possible set of process parameter to attain the better machining performance of EDM of Haste alloy C276. Experimental runs are planned and analyzed by Taguchi's approach. The influence of process parameters such as current, pulse on and pulse off time were investigated to control the desired performance measures such as Material removal rate, surface roughness and overcut. Analysis of variance (ANOVA) has been used to ascertain the significance of the input process variables on electrical discharge machining of Haste alloy C276. The statistical results confirmed that the current is the most influencing process variable for material removal rate, surface roughness and overcut. Multiple regression models have been developed to predict the desired performance measures in electrical discharge machining of Haste Alloy C276.

Keywords: Electrical Discharge Machining, Haste alloy C276, Analysis of variance, Material Removal Rate, Surface Roughness.

2. EXPERIMENTAL ANALYSIS ON MACHINABILITY OF PH STAINLESS STEEL WITH COATED TUNGSTEN CARBIDE INSERT

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ABSTRACT

In this present study Machinability analysis of heat treated PH stainless steel was studied for different cutting conditions. Cutting speed, feed rate and nose radius were the input parameters considered for this experimental study. Machinability parameters such as cutting force, surface roughness, micro-hardness and micro-structure were the responses analysed. Experimental results revealed that the feed rate is most influencing parameter that affects the desired performance measures and followed by the cutting speed. The variation in nose radius exhibited less effect on micro-hardness and micro-structure. Localized deformation were observed in the microstructure of the machined surface at higher cutting velocity and higher feed rate. The hardness on the machined surface was high for a certain depth and there was reduction in hardness at the subsurface and reached the base metal hardness. Higher cutting speed and lower feed rate favours the better surface finish and reduces the cutting forces significantly while tool insert with higher nose radius improved the surface finish.

Keywords: PH stainless steel, CNC, cutting force, surface roughness, microstructure micro hardness.

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Optimization of process parameters in Electrical Discharge Machining of Haste Alloy C276 using Taguchi's method

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Abstract

Nickel based superalloys are most commonly used material in various engineering applications such as gas turbines, nuclear reactors and aerospace industries. The nickel based superalloys are very hard to machine materials with the use of conventional machining methods. Electrical Discharge Machining (EDM) is an appropriate unconventional material removal process used for machining such kind of difficult to machine materials. This present investigation details the determination of optimum process parameter to attain the better machining performance in EDM of Haste alloy C276. The experimental conditions are planned and analyzed by Taguchi's design of experiments approach. The influence of process variables such as current, pulse on and pulse off time were investigated to control the various desired performance measures such as Material removal rate, surface roughness and overcut. Analysis of variance (ANOVA) a statistical analysis tool has been applied to ascertain the significance of the input process variables on electrical discharge machining of Haste alloy C276. The statistical results confirmed that the current is the most influencing process variable on material removal rate, surface roughness and overcut. Multiple regression models have been developed to correlate the relationship among the independent and dependent variables in electrical discharge machining of Haste Alloy C276.

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Keywords: Electrical Discharge Machining; Haste alloy C276; Analysis of variance; Multiple Regression Analysis; Material Removal Rate; Surface Roughness.

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68. MULTI OBJECTIVE OPTIMIZATION ON CNC TURNING OF ALSi-Mg USING TAGUCHI BASED GREY APPROACH

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ABSTRACT:

In this present exploration a multi objective optimization method is proposed for CNC turning of AlSi-Mg for determining possible machining parameters to obtain the better machining performance. Taguchi's design of experiments approach is employed for planning the experiments. An L₂₇ orthogonal array has been opted for conducting experiments. Spindle speed, feed rate and depth of cut are considered as the input process variables. Material removal rate and surface roughness are the desired performance measures in this investigation. Taguchi's SN ratio analysis is used for analyzing the influence of independent process variables. The Grey Relational Analysis is used for obtaining the better multi performance machining characteristics. Interaction graphs are drawn for various combinations of independent process variable against the desired performance measures. The experimental outcomes reveal that the proposed method of multi objective optimization considerably enhances the multi performance machining characteristics.

Keywords: AlSi-Mg; CNC Turning; Multi objective optimization; Taguchi's experimental design approach; Grey relational analysis; Interaction Analysis.



International Conference on Advanced Functional Materials (ICAFM 17)



61. INVESTIGATIONS ON MICROSTRUCTURE AND MECHANICAL BEHAVIOUR OF STIR CASTED AL 7075 GNP COMPOSITES

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ABSTRACT

In the present study, the microstructure and mechanical properties of aluminum 7075 Graphene Nano platelets (GNP's) composites were investigated for various compositions. The contents of Graphene Nano platelets were varied from 0.50 to 2 wt. % in aluminum 7075 matrix. The composites were fabricated through stir casting technique and the results obtained from the microstructural analysis revealed that the Al 7075-1.5 % GNP's composites have better mechanical properties such as tensile strength, hardness of the composite while comparing with Al 7075 - 0.50% GNP's, 1.0 %GNP's and 2% GNP's composites. The Scanning Electron Microscopy (SEM), Fractography analysis and XRD results confirms that there is a considerable improvement in the mechanical properties of Al 7075-1.5 % GNP's while comparing with other weight percentages.

Experimental investigations on a variable compression ratio (VCR) CIDI engine with a blend of methyl esters palm stearin-diesel for performance and emissions

A. R. Babu, G. Amba Prasad Rao & T. Hari Prasad

Phlegm 111, February 2011, 38-50. Accepted for publication 10 February 2011. Published online 27 February 2011.

Abstract

The present work deals with an experimental evaluation of the existing diesel engine with a blend of methyl esters of palm stearin (PS) oil and petro-diesel under varying injection pressures and compression ratios (CRs). It was observed that the brake thermal efficiency of engine was high with PSME40 at an injection pressure of 210 bar and CR of 16.5 when compared to other fuel injection pressures of 190 and 230 bar. However, the engine performance was superior with CR 19 at the rated injection pressure of 190 bar. Higher peak pressures are observed with higher CR. The engine emissions in terms of hydrocarbons, carbon monoxide and smoke opacity were lower but the nitrogen oxides were found to be increased due to the better combustion. It is observed that CR and fuel injection pressure simultaneously played a vital role in the reduction of emissions. The study revealed that PS could be explored as a source for producing biodiesel effectively with environmental concerns.

KEYWORDS: CI engine, PSME40 blend, fuel injection pressures, compression ratios, engine performance, exhaust emissions.

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Optimization of Process Parameters of EDM Process Using Fuzzy Logic and Taguchi Methods for Improving Material Removal Rate and Surface Finish

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Abstract

The main intent of this work is to optimization of multiple responses of Electric discharge machining (EDM) using Fuzzy method coupled with Taguchi is attempted. The work piece material was AISI 304 Stainless Steel and a cylindrical copper electrode with side impulse flushing was used. The effect of machining parameters, i.e., discharge current (pulse on time), discharge voltage and Inter Electrode Gap (IEG) on the Material Removal Rate (MRR), Tool Wear Rate and Surface Roughness (Ra) in EDM are examined. L9 orthogonal array was used to design the experiment and the effect of the factors on the responses were studied. As the responses are conflicting in nature, factors of a single combination will not be treated as best machining performance for all responses. The multiple responses were converted into a single characteristic index by using Fuzzy logic known as Multi Performance Characteristic Index (MPCI). Finally, MPCI's were optimized by using Taguchi.

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Keywords: EDM, MRR, Surface Roughness, Fuzzy and Taguchi.

1. Introduction

The English Scientist named Joseph Priestly invented EDM techniques in the 1770's. He observed in his experiments that electrical discharges had removed material from the electrodes. Although it was originally

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Design, Development And Performance Analysis Of Axial Flow Wind Turbine For Household Applications

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Wind energy, 6-blades rotor system, Gearing system, Dynamo, Windmill and Battery.

ABSTRACT

In worldwide rural areas are having plenty of renewable energy resources but facing the problem due to lack of electricity from years. The conventional way to generate electricity requires the use of petroleum product or coal which generates heat for the production of energy. This leads to the emission of various toxic gases and waste products causing harm to the environment. To overcome this effect and to make it more reasonable the wind energy is the best unconventional source to generate the power and eco-friendly too. Wind energy is the kinetic energy associated with the movement of atmospheric air. It has been used for hundreds of years for sailing, grinding grain, and for irrigation. Wind energy systems convert this kinetic energy into useful form of energy. The main intent of present research is to design and development of axial flow wind turbine with 6-blades rotor (60 rpm) with gearing system to generate electricity. The kinetic energy of wind strikes the blades of rotor tends to rotate and this wind energy converts into mechanical energy by gearing system and the mechanical energy further converts into electrical energy with help of dynamo and stores in the battery and it will be useful for the household applications. In this paper the design, development and performance analysis of the wind turbine with 6-blades rotor system has been explained briefly and the analytical values have been calculated for the design of wind turbine. The analytical results of the wind turbine governs that the design is under safe limit. In future scope perform the experiments on wind turbine and then calculate experimental values with different wind speed. Finally the results of experimental will compare with the analytical results.

INTRODUCTION

Many rural areas are having plenty of renewable energy resources but facing the problem due to lack of electricity from years. The predictable way to generate electricity requires the use of petroleum product or coal which causes heat for the making of energy. This leads to the release of various toxic gases and excess products causing harm to the environment. To overcome this difficulty and to make it more feasible the wind energy is the best alternative source to generate the power and eco-friendly too. Wind energy is the kinetic energy associated with the movement of atmospheric air. It has been used for hundreds of years for sailing, grinding grain, and for irrigation (Frederikus, Wepchenabun, 2015; Chonnapat Torasan, Nichanant Sermwib, 2015). Wind energy systems convert this kinetic energy to more useful forms of power. Wind energy systems for irrigation and milling have been in use since ancient times and since the beginning of the 20th century it is being used to generate electric power. Windmills for water pumping have been installed in many countries particularly in the

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Design, Development, Analysis and Comparison of Instrumented Irradiation Capsule for Online Determination of Uniaxial Creep Behavior in Structural Specimen Out-of-Pile Test Results with Analytical Results in FBTR

Sadu Venkatesh¹ · Rajesh Saxena² · S. Murugan² · S. Venugopal²

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Abstract The main intent of this work is to develop an instrumented capsule for online determination of uniaxial creep behavior of SS 316L structural specimen. The irradiation capsule has three different zones located one over the other. In the bottom zone of the capsule, the specimen is located, with one end fixed to the bottom portion of capsule and the other end connected to a central tube through a connecting plug. In the top zone a linear variable differential transducer (LVDT) is placed and its core is passed through the central tube. The end point of the LVDT core touches the plug connected to the specimen to measure the elongation of the structural specimen. In this capsule setup, bellows are used to apply a load on the structural specimen with the use of pressurized argon gas. With the application of pressure, the bottom bellow will expand and the top bellow will get compressed. During this expansion of the bottom bellow, tensile load will be applied on the specimen, and the elongation of the structural specimen will be measured by the movement of the core of the LVDT. This paper discusses the details of the design, assembly of an out-of-pile version of instrumented capsule and its experimental results are compared with literature results. The creep experiments have been carried out at three different temperatures and three different stresses (269 MPa at 450 °C, 287 MPa at 500 °C and

306 MPa at 550 °C). Initially the capsule is filled with pressurized argon gas at 6 MPa at room temperature. We have observed that the force/load due to argon gas pressure is the major component for the tensile loading of the specimen and 95% of the total load acts on the SS 316L specimen and remaining 5% load only acts on the bellow. Design concept of instrumented capsule for uniaxial creep measurement has been validated.

Keywords Creep · Instrumented irradiation capsule · Bellow · LVDT · Structural specimen · Out-of-pile testing

1 Introduction

As conferred in [1–17], many materials test reactors (MTRs) with support from Technical Research Center of Finland, the French OSIRIS reactor with support from Commissariat 'at' Energy Atomie, the Halden Boiling Water Reactor (HBWR) with support from the Institute for Energy Technology/Halden Reactor Project (IFE/HRP), the Japan Materials Testing Reactor (JMTR) and the High-Flux Advanced Neutron Application Reactor (HANARO) have positioned creep test rigs to detect the progressive elongation of tensile and creep specimens using bellows to apply a variable load to a specimen and linear variable differential transducers (LVDTs) to detect the growth of the specimen. In Table 1 [18], we have compared aspects of these various creep test setups.

It has been found that there are certain limitations in the irradiation capsules presently being used, and an attempt has been made in the present research work, to design and develop an instrumented capsule for determining in-pile creep behavior of materials, thus overcoming these limitations.

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Vibration Analysis of CNC Machine Spindle using LabVIEW

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Abstract— Vibrations are one of the most important aspects in the dynamic stability considerations, especially in high speed machining. In this case, analysis and monitoring of the vibrations in Computer Numerical Control machine (CNC) spindles are of great concern for fault detection and implementing condition based maintenance. In this context, a study on vibration analysis of the CNC machine spindle is carried out by acquiring and analyzing the vibration signals, thereby the tool wear can be predicted. A single axis piezo-electric accelerometer is used to detect the vibration signals and Laboratory Virtual Instrument Engineering Workbench (LabVIEW), a graphical programming language, is used for acquiring and analyzing the signals. A graphical user interface was developed to represent the condition monitoring in a very effective way. The LabVIEW based condition monitoring system was found to be easier and accurate.

Index Terms— Computer Numerical Control machine, LabVIEW, Vibration monitoring system.

I. INTRODUCTION

Vibration is the harmonic, periodic, and random motion of a rotating machine. Misalignment and looseness commonly generate vibrations in operating machines, and even a small amount of imbalance can cause severe damage to the machinery. Hence it is absolutely essential to ensure reliability and accuracy of rotating machinery which can be achieved by monitoring and analyzing. Vibration monitoring of machine tools also helps in monitoring the tool life, tool integrity, part quality and preventing unexpected tool failure causing unscheduled downtime.

The objective of the present work is to analyze the vibrations in CNC spindle using LabVIEW software.

II. LABVIEW

The present work requires vibration analysis to be carried out in LabVIEW software. Laboratory Virtual Instrument Engineering Workbench (LabVIEW) is a platform and development environment for a visual programming language from National Instruments. It is gaining its popularity especially for data acquisition and measurement. One area of application of LabVIEW is in the monitoring and analysis of vibration signals. It usually follow a three-step process: data acquisition, data analysis and data visualization/presentation. LabVIEW is designed to facilitate data collection and

analysis, as well as offers numerous display options. With data collection, analysis and display combined in a flexible programming environment, the desktop computer functions as a dedicated measurement device.

Graphical User Interface (GUI) is a software that works at the point of contact (interface) between a computer and its user, and which employs graphic elements (dialog boxes, icons, menus, scroll bars) instead of text characters to let the user give commands to the computer or to manipulate what is on the screen. LabVIEW makes it easy to design graphical user interfaces (GUIs) for our measurement applications. One can interact with data using hundreds of drag-and-drop controls, graphs, and 3D visualization tools and also customize the size, position, and color of built-in controls or create our own in seconds.

III. METHODOLOGY

To monitor vibrations, a sensor that separates the frequency and quantifies the amplitude, is used. Because vibration frequency and amplitude cannot be measured by sight or touch, an instrument is needed which helps to convert the vibrations into a usable quantity that can be processed and displayed along a frequency axis. An accelerometer is the device that measures vibration or acceleration of a structure. Piezoelectric accelerometers use materials such as crystals, which generate electric potential from an applied stress. As

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RESEARCH PAPERS

EXPERIMENTAL STUDIES ON TURNING OF ALUMINIUM 6351 – T6 ALLOY UNDER MINIMUM QUANTITY LUBRICATION TECHNIQUE

By

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ABSTRACT

Cutting fluids are widely used in machining process, to remove the heat from the cutting zone. Minimization on usage of cutting fluid is more focused by present day industrialists and researchers for the economical and ecological reasons also. To address the above concern, Minimum Quantity Lubrication (MQL) is one of the technique which uses less cutting fluid to maximize the product quality and tool life. The present work reports the experimentations carried out under minimum quantity lubrication and dry conditions in turning of AL 6351-T6 alloy. The samples were turned out at five different spindle speeds (77, 184, 252, 673 and 922rpm). The effect of spindle speed on tool temperature and surface roughness are investigated here. It was found that increase in spindle speed in turning of AL6351-T6 alloy by using MQL reduced the surface roughness compared to dry condition.

Keywords: Minimum Quantity Lubrication (MQL), Aluminum Alloy, Turning, Surface Roughness.

INTRODUCTION

Machining is a controlled material removal process which finds its application in a variety of industrial sectors such as automobile, aerospace and defense. Similar to many other manufacturing processes, machining bears significant environmental impacts in terms of energy/resource consumption, airborne emissions, wastewater discharge, and solid wastes along with occupational health risks (Kundiák et al. 2007). Most of these issues are due to the use of cutting fluids, which are traditionally formulated with petroleum-derived compounds with high ecotoxicity and low biodegradability. Exposure to these chemicals, along with growth of microorganisms and biocides used for microbial control, could lead to respiratory irritation, asthma, pneumonia, dermatitis, and even cancer (Park et al. 2010).

Cutting fluids have direct environmental impact. In flood coolant lubrication, large amount of fluid is drained into ground; it will create a lot of environmental pollution near the metal cutting industries. Cutting fluid (Çakır et al. 2016) application is important during the time spent machining in light of the fact that cutting liquids have a greasing up

impact in decreasing the warmth produced in the cutting zone, diminish contact in the tool-chip interface furthermore move wears down from the cutting zone.

To address these concerns, extensive effort has been put forth to (1) extend the cutting fluid life span by removing particulates, free oils and other contaminants via separation and filtration, (2) reformulate traditional petroleum-based fluids with vegetable oils and bio-based ingredients for lower toxicity and higher biodegradability, and (3) reduce or even eliminate the reliance on cutting fluids during machining through dry machining and Minimum Quantity Lubrication (MQL) techniques.

Many alternatives are developed to minimize the use of cutting fluid quantity. Some of the techniques are

- Dry machining (Klocke and Eisenblätter 1998) – without the use of cutting fluid during machining.
- Cryogenic cooling (Evans and Bryan 1991) – liquid nitrogen at -196°C is applied at the cutting zone.
- Coated tools machining (Klocke and Krig 1999) – coatings are applied by chemical vapor deposition and physical vapour deposition methods. a thin layer of material is deposited on the cutting insert.



AMMMT 2016

Experimental Investigation and Analysis of Process Parameters in Abrasive Jet Machining of Ti-6Al-4V alloy using Taguchi Method

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Abstract

Titanium (Ti-6Al-4V) alloy gained a significant importance because of owing to its light weight, corrosive resistant and high strength properties even at low to moderate temperatures. Basically, this titanium alloy is employed in fabricating medical device applications, aircraft industry, aerospace fasteners, high-performance automotive parts, marine applications, and sports equipment. It is difficult to machine a hole in Titanium alloy using conventional machining process. Abrasive Jet Machining (AJM) process under un-conventional machining process is one such solution which provides the solution for machining of holes on Ti-6Al-4V composite material. In the present paper, an effort has been made to optimize machining parameters employed during drilling on Ti-6Al-4V composite material using Abrasive Jet Machining. The influence of the various process parameters, i.e. pressure, nozzle diameter and stand-off distance on the predominant machining criteria on the metal removal rate (MRR) was studied. In this work, repeated number of experiments was carried out as per the Taguchi experimental design (L27 3 levels, 3 factors). The settings of the process parameters were determined by using Taguchi's experimental design method. Orthogonal arrays of Taguchi, the signal-to-noise (S/N) ratio, and the analysis of variance (ANOVA) are employed to find the optimal process parameter levels and to analyze the effect of these parameters on metal removal rate values and the quality of the hole. Confirmation test with the optimal levels of machining parameters was carried out in order to illustrate the effectiveness of the Taguchi optimization method.

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Keywords: Abrasive Jet Machining, Ti-6Al-4V, Taguchi, ANOVA

1. Introduction:

Titanium alloy Ti-6Al-4V has become very potential material in numerous engineering fields such as aerospace, sports, turbines, nuclear and biomedical due to their low density, high corrosion resistance and recommended for use at service temperatures up to approximately 350°C (660°F) [1]. However, these alloys are

BIFAD: Bio-Inspired Anomaly Based HTTP-Flood Attack Detection

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K. Venugopal Rao³

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Abstract Application layer based DDoS attacks have changed the way DoS attacks are taking place with more subtle level of attacking methods being imparted, which pose an ever-increasing challenge towards the emerging trends of internet based application systems development. Among the key range of attacks that take place, HTTP-flood DDoS attacks are on high. In the case of DDoS attacks based on HTTP flood, unusual quantum of requests are sent to the servers within quick time interval and it affects the response and the performance levels of the server. There are numerous solutions in contemporary literature, pertaining to thwarting HTTP flood kind of attacks. It is imperative from the analysis that there are constraints in the existing models since the most of these models are user session based and/or packet flow patterns. The session based evolution models are vulnerable to botnets and packet flow pattern based models are vulnerable if attack sources are equipped with human resource and/or proxy servers. Hence, there is inherent need for improving the solutions towards addressing the HTTP flood kind of attacks over the system. The crux for such system is about ensuring that fast and early detection with minimal false alarming in streaming network transactions, and ensures that the genuine requests are not impacted. To address such a system, the model of Bio-Inspired Anomaly based HTTP-flood detection aimed, and the proposed model depicted in detail along with experimental inputs. Results attained from the process exemplify the significance and robustness of the model towards achieving the objectives considered for the solution.

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Clustering of Labeled And Unlabeled Data By Integrating Pre And Post Clustering Approaches

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Abstract— Clustering is the process of organizing objects into groups whose members are similar in some way or differ significantly from other objects. There are two approaches viz., pre-clustering and post-clustering. Pre-clustering is an unsupervised learning that assigns labels to objects in unlabeled data. The important pre-clustering approaches that we have considered are Dark Block Extraction (DBE), Cluster Count Extraction (CCE) and Co-VAT (Visual Assessment of Cluster Tendency). The present work focuses on pre-clustering approach. The limitations of these pre-clustering algorithms are i) DBE can't handle the large data ii) CCE suffers because of perplexing iii) Co-VAT works with only rectangular data. Our work proposes Extended Dark Block Extraction (EDBE), Extended Cluster Count Extraction (ECCE) and Extended co-VAT to overcome the above said limitations. The following five steps results after integrating pre and post clustering approaches. They are 1) Extracting a VAT image of an input dissimilarity matrix. 2) Performing image segmentation on the VAT image to obtain a binary image, followed by directional morphological filtering. 3) Applying a distance transform to the filtered binary image and smoothing the pixel values on the main diagonal axis of the image to form a smoothening signal. 4) Applying first-order derivative and fast fourier transformation on smoothened signal for detecting major peaks and valleys. 5) Now post-clustering approach i.e. k-means algorithm is applied to the major peaks and valleys in-order to obtain refined clusters. The proposed algorithms viz. EDBE, ECCE and Extended Co-VAT uses VAT as well as the combination of several image processing techniques are applied on various real world data sets like IRIS, WINE and Image Data sets. These extended approaches use Reordered Dissimilarity Image (RDI) that highlights potential clusters as a set of 'Dark blocks' along the diagonal of the image. The simulation results show that EDBE, ECCE, Extended co-VAT outperform DBE, CCE and co-VAT in terms of time-complexity and accuracy of labeled and unlabeled data.

Keywords: Clustering, DBE, CCE, CO-VAT, VAT, iVAT, EDBE, ECCE and Extended CO-VAT.

I. INTRODUCTION

1.1 Introduction to Pre-clustering

Pre-clustering tendency assessment is a process of finding the number of clusters in data sets, which is an important and challenging issue. Pre-clustering is an approach suggested by Huse et al. 2010. A common problem in the data mining community is how to organize the observed data into meaningful structures. As an exploratory data analysis tool, cluster analysis aims at forming objects of similar kind into their respective groups. Several clustering algorithms have been studied and are mentioned in the literature survey. In general, clustering of unlabeled data pose many problems like assessing cluster tendency, i.e., how many clusters to form or what is the value of 'cluster count', partitioning the data into clusters, validating the cluster count and cluster performance i.e. how to increase the quality. Several attempts have been made to estimate number of clusters in a given data set. All these methods are used to identify the validity of the clusters, i.e., they try to select the best

partition among all the alternatives. In contrast, tendency assessment attempts to estimate 'cluster count' before clustering occurs.

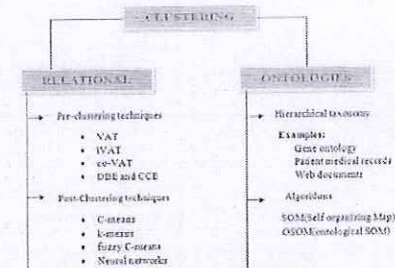


Fig. 1.1: Classification of Clustering Techniques

There are large numbers of clustering algorithms reported in the literature such as VAT, iVAT, DBE, CCE,

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FPYM: development and application of a fuzzy-based Poka-Yoke model for the improvement of software performance

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Abstract: Improving qualities of software like reliability, availability, maintainability, cost, time and energy is key role in software development. These qualities are more dependable on the requirements, design, development, testing and deployment. In order to improve the software qualities on these cycles, avoiding mistakes or making alarm for each activity may be suitable choice. This is effectively studied using Poka-Yoke model which is applied in various production, manufacturing and software industries. Due to advantages of Poka-Yoke model, we have developed fuzzy-based Poka-Yoke model for small-scale software companies. This work aims to study the workflow and activities of two small scale companies involved in software development. In the case study, software performance attributes are defined and performance is analysed using four metrics called, UGAM, IOI, SM and SSM. The collected data is then extensively analysed to identify: the individual characteristics of companies, correlation behaviour of companies which they implemented the proposed model, improvement analysis over the period of time with the proposed model and forecasting the software performance for next products.

Keywords: software quality; Poka-Yoke; fuzzy logic; usability goals achievement metric; UGAM; index of integration; IOI; software performance.

Reference to this paper should be made as follows: Baseer, K.K., Reddy, A.R.M. and Bindu, C.S. (2017) 'FPYM: development and application of a fuzzy-based Poka-Yoke model for the improvement of software performance', *Int. J. Innovative Computing and Applications*, Vol. 8, No. 2, pp.65-80.

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An Essence of Soft Computing Techniques on Software Development Life Cycle

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Software Engineering is a discipline that aims at producing high quality of software through systematic, well planned approach of software development. To accomplish high quality software it is indispensable to produce defect free product. Defect is the unexpected or undesired conduct that occurs in the product. Anything related to defect is a recurrent process not a particular state, whereas enlightening the qualities of software like reliability, usability, availability, maintainability, cost, time and energy is key role in software development. These qualities are more loyal on the requirements, analysis, architecture, design, development, testing and deployment.

In order to improve the software qualities on these cycles, shunning mistakes or making alarm for each activity may be suitable choice. Each and every element of software is diligently related to software quality. The software quality decreases when the software complexity increases. Therefore, understanding, measuring, managing, controlling and minimizing the software complexity is a big challenge in software engineering. It is important to focus on quality, monitoring the product and system performance. On the other hand, usability is important to safeguard the software quality and to increase the speed and accuracy of the range of tasks carried out by the users of a system because in software industries, the performance of the software is mostly improved through usability. In order to accomplish all of these needs in software development environment, some of the Soft Computing Techniques (SCT's) will help in a better way. These are Poka-Yoke, Fuzzy Logic, Neural Networks, Particle Swarm Optimization, Genetic Algorithm, etc.

This study gives an essence and impact of SCT's on Software Development Life Cycle (SDLC).

1. Introduction to SCT's

The following are the suitable SCT's used for the development of defect free software in improving the quality:

Poka-Yoke: In software development processes, Poka-Yoke concept is one of the methods to enrich usability and quality. Poka-Yoke (PY) which is a Japanese term, Poka means mistake and Yoke means prevent which is mistake preventing or mistake proofing technique. HP introduced PY into their Common Desktop Environment software and prevents hundreds of defects before it reaches to their customers. Shigeo outlines a method that uses sensor or other devices for hooking errors that may pass by operators or assemblers and it is said to be PY. A finest example of Poka-Yoke design from manufacturing industry is SIM card slot in cell phones. The seamless example of Poka-Yoke process in software application is Gmail email attachments feature.

Fuzzy logic: This theory was developed by Lofti A. Zadeh in the 60's and is based on the theory of fuzzy sets. It deals with the vagueness, uncertainty and imprecision of many real-world problems and also to simulate human reasoning and its ability of decision making based on not so precise information present in the early phase. Some of the promising key application areas of Fuzzy Logic (FL) which have been recognized are - Project Planning, Software Reliability Prediction, Software Usability, Software Quality Assessment, Performance Analysis of Software, Test case Allocation, Software Reusability, Software Fault Prediction and Size Estimation.

Neural Networks: It was developed

to model the neural architecture and computation of the human brain. A Neural Network (NN) consists of simple neuron-like processing elements. Processing elements are interconnected by a network of weighted connections that encode network knowledge. NNs are highly parallel and exercise distributed control. NNs have been used as memories, pattern recall devices, pattern classifiers, and general function mapping engines. A classifier maps input vectors to output vectors in two phases. Neural Network (NN) can be used to build tools for software development and maintenance tasks, it can perform better in estimations & predictions, and it is used in integrating security at the design level of SDLC and also can be used across a variety of testing criteria.

Particle Swarm Optimization: Swarm Intelligence (SI) is an innovative distributed intelligent paradigm for solving optimization problems that originally took its inspiration from the biological examples by swarming, flocking and herding phenomena in vertebrates. PSO is a robust stochastic optimization technique based on the movement of intelligent swarms. PSO applies the concept of social interaction to problem solving. The basic concept of PSO lies in accelerating each particle towards its Pbest and Gbest locations with a random weighted acceleration at each time. PSO will be used to estimate the parameters for predicting software reliability, helps controlling the quality and predicting cost of software, it will help the project managers to efficiently plan the overall SDLC of the software product, can perform performance prediction, trades-off between architectural designs alternatives, and also it can be used to effectively generate alternatives in spanned design

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**CHARACTERISTICS OF GATE WRAP
AROUND DOUBLE-WALLED ARRAY
CARBON NANOTUBE FIELD EFFECT
TRANSISTOR**

Presented

by

Dr.P.Geetha

Sree Vidyanikethan Engineering College,

Tirupati

At

INUP, CENSE, BANGALORE

Verification and Fabrication of Double-Walled Array Gate Wrap Around Carbon Nano Field Effect Transistor

Dr.P.GEETHA, Asso.Prof, ECE, SVEC, Tirupati.

Research Team
Dr.D. Leela Rani & Dr.N. Padmaja ,
Prof, ECE, SVEC, Tirupati.

DEVICE STRUCTURE

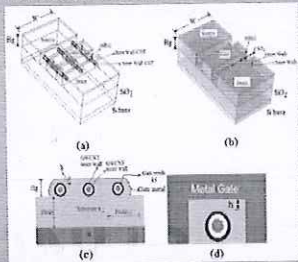


Figure 1.(a) Internal wired 3-D View, (b) Transparent internal 3-D View, (c) & (d) Cross sectional views of GWADWACNT FET

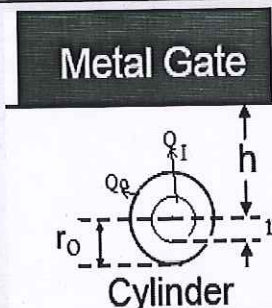


Figure 2. The real charge Q and its image charges Q1 and Q2

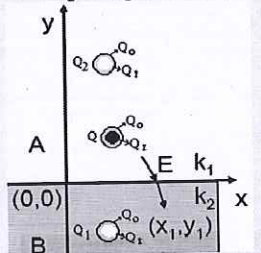


Figure 3. Charge profile of a cylinder

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For Enhancing Our Research Following Facilities Required From IISC, Bangalore :

1. H/w facility for fabrication and practical verification of the device Characteristics.

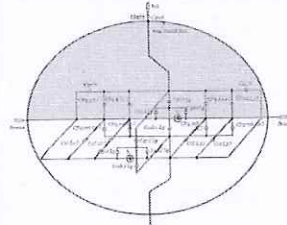


Figure 4. Equivalent circuit of capacitive model for DWAGWA CNTFET

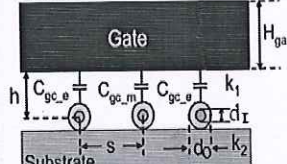


Figure 5. Distribution of Gate to Channel Capacitances



Figure 6. Distribution of Fringe capacitances and Gate-to-gate Capacitance

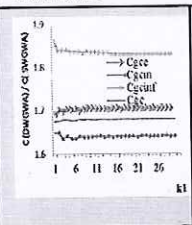


Figure 11. Capacitance ratio between DWGWA and SWGWA for different gate dielectrics.

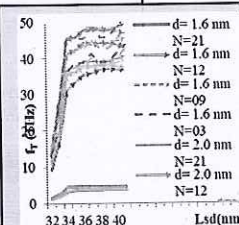


Figure 12. High frequency resonance for change in source/Drain length with various diameters and channel densities.

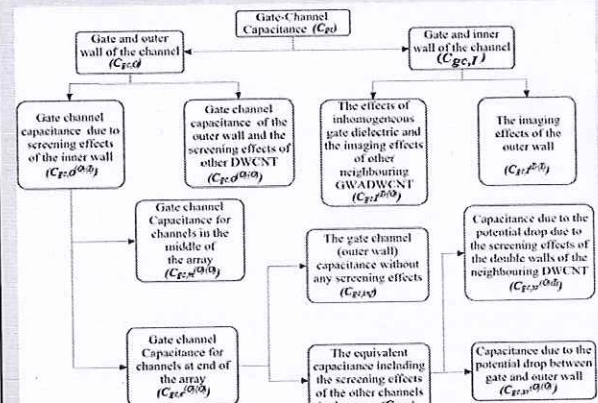


Figure 7. Classifications of Gate to channel capacitance (Cgc)

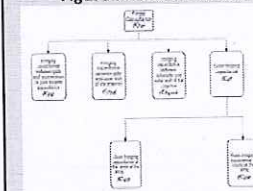


Figure 8. Classifications of Fringing capacitance

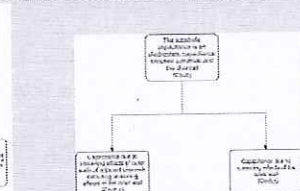


Figure 9. Classifications of Substrate capacitance

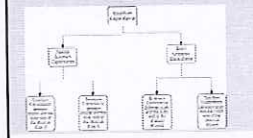


Figure 10. Classifications of Quantum capacitance

The driven capacitance and drive current are calculated with following relations
 $I = \min(N, 2) \cdot (I_n^{(0)} + I_n^{(1)}) + \max(N - 2, 0) \cdot (I_n^{(0)} + I_n^{(1)})$
 and Driven capacitance
 $C = C_g L_g + f_{matter} \cdot 2 \cdot (C_{of}^{(g)} L_2 + C_{g2} W_{pitch}) + C_{gsu2}$

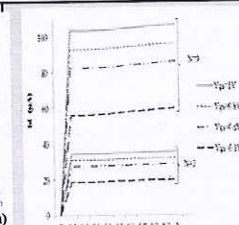


Figure 15. The variation of drain current with respect to drain voltage for N=3, 9.

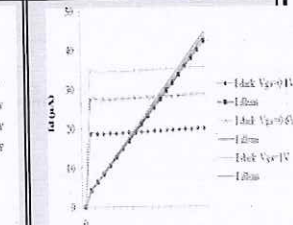


Figure 16. Variation of Drain current with respect to drain voltage with and without illumination for various Vgs.

CONCLUSION: DWGWA CNTFET is examined theoretically and it is found that it confirms higher performance in capacitance values compared to that of SWGWA CNTFET. It is proved that the device with double-walled channels demonstrate its enhanced presentation by providing higher capacitance values with respect to the corresponding single wall channelled device. Optical gate double-walled gate wrap around array CNTFET has been modelled as an extension of its electrical model. The induced charge carriers with optical power reduce the depletion width which increases the drain current. In this work, it is found that the device model can be used for designing mixers and oscillators.

REFERENCES: [1] J.Deng and H.-S.P.Wong, "Modelling and analysis of planar-gate electrostatic capacitance of 1-D FET with multiple cylindrical conducting channels," *IEEE Trans. Electron Devices*, vol.54, no.9, pp.2377-2385, Sep.2007. [2] Jun Zh.Huang and Wen-Yan Yin, "Modeling and Performance Characterization of Double-Walled Carbon Nanotube Array Field-Effect Transistors", *IEEE Transactions on Electron Devices*, Vol.58, No.1, pp.17-25, Jan.2011. [3]X. Wang, H.-S. P. Wong, P. Oldiges, and R. J. Miller, "Gate capacitance optimization for arrays of carbon nanotube field-effect transistors," in *Proc. Device Res. Conf.*, 2003, pp. 87-88. [4] Md.RakibulKarimAkanda and Quozid.M.Khosru, "FEM Model of Wraparound CNTFET With Multi- CNTand its Capacitance Modelling," *IEEE Trans. Electron Devices*, vol.60, No.1, pp. 97-102, Jan.2013

E-PAPER FOR VISUALLY CHALLENGED

S.RANJITH, III B.TECH,ECE,
Sree Vidyanikethan Engineering College,
Tirupati.

UNDER THE GUIDANCE OF
Dr.P.GEETHA, Asso.Prof, ECE,
Sree Vidyanikethan Engineering College, Tirupati.

Aim: To develop a prototype for visually challenged people to have an experience of writing sense using ZnO Nanowire.

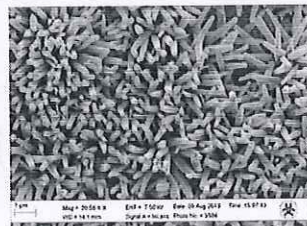


Figure 1) A low magnification SEM micrograph of the ZnO NWs grown on paper substrate.

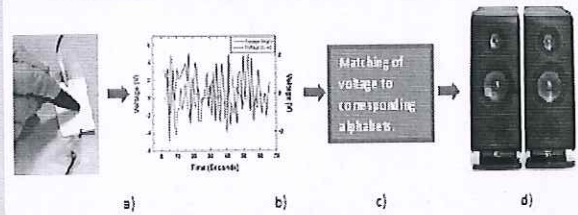


Figure:2) Proposed system of process of conversion of energy.
a) Writing up the message b) Output voltage achieved using ZnO NWs
c) Matching the voltage with alphabets d) Loud Speaker.

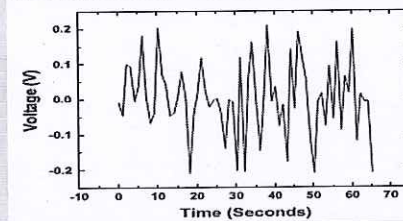


Figure 3) the open circuit output voltage as a function of time of a NG fabricated by pure polymer ink andwiched between two ZnO NWs grown on paper.

Objectives:

- To utilize the miniaturization tool - nano technology for supporting the visually challenged persons.
- To develop an E-paper that will help the physically challenged people for writing on a paper with no difficulty.

Brief Description of Project: Visually challenged people can read but, it is hard for them to experience the sense of writing. They seek the help of others to write their scripts. If a system can facilitate them to enjoy writing, that will improve their confidence. In this work, an E-paper is proposed that converts the mechanical energy (handwriting) to electrical energy. The excellent piezoelectric property of Zinc Oxide can be utilized for the purpose. Chemically ZnO nanowire is grown on one side of two papers. PVDF (Poly vinylidene fluoride) ink is pasted in between the two papers. Electrical potential is generated by the mechanical pressure exerted by the writer while writing on the paper. This signal can be processed and programmed for hearing the texts.

Conclusion: The fabrication cost is low, environment friendly, non-toxic and highly compatible. Thus, this solution will make the people could go for flexible handwriting converting the impossibility of writing as a possible skill.

ADVANTAGES:

1. it is of low fabrication cost, user and environment friendliness.
2. it is high compatibility with micro fabrication technology
3. it is non toxic.

SCOPE:

- Other applications includes
1. E-note for journalists
 2. E-note for students

REFERENCES:

- [1] E.S. Nour, M.O. Sandberg, M. Willander, O. Nur, "Handwriting enabled harvested piezo electric power using ZnO nanowires/polymer composite on paper substrate", *Nano Energy* (2014) 9, 221–228.
- [2] M. Y. Soomro, I. Hussain, N. Bano, O. Nur, and M. Willander, "Piezoelectric power generation from zinc oxide nanowires grown on paper substrate", *Physics Status Solidi RRL* 6, No.2,80–82, (2012).
- [3] Zhong Lin Wang and Jinhui Song, "Piezoelectric Nanogenerators Based on Zinc Oxide Nanowire Arrays", *SCIENCE* VOL. 312, (2006), 242–246.
- [4] Pu Xian Gao, Jinhui Song, Jin Liu, and Zhong Lin Wang, "Nanowire Piezoelectric Nanogenerators on Plastic Substrates as Flexible Power Sources for Nanodevices", *Advanced Materials*, (2007), 19, 67–72
- [5] Azam Khan, Mushtaque Hussain, Omer Nur and Magnus Willander, "Mechanical and piezoelectric properties of zinc oxide nanorods grown on conductive textile fabric as an alternative substrate", *J. Phys. D: Appl. Phys.* 47 (2014) 345102 (9pp).

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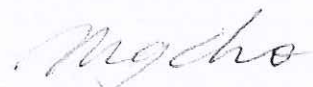
Dear Alexander.O. Raevskii

Greetings. Thanks for accepting our manuscript entitled with "**Design of Two by Three Element Fractal Tree Antenna Array for WLAN and WiFi Applications**" to publish in your esteemed journal "Journal of Communications Technology and Electronics.

I am agree for the copyright transfer of the above manuscript as a co-author

Thanking you

Yours Sincerely



(Migyung Cho)

62

Greetings

geetha prahalad <mailpgeetha2013@gmail.com>

to Meyya

Dear Sir,

Thank you for your response. I want to have your technical suggestions that if I want to replace CNTs for Si nanowire in detection of biomarkers, is it feasible in terms of operation as well as fabrication?

Meyyappan, Meyya (ARC-T) <m.meyyappan@nasa.gov>

to me

That is a more descriptive question. Hard to answer still. If you are using them as thin films, either would be fine. But if you are growing them vertical on the substrate as electrodes, vertical silicon nanowire is much tougher to grow.

Attaching probes to CNT vs silicon is completely different since carbon chemistry and silicon chemistry are not the same. Protocols are different

geetha prahalad <mailpgeetha2013@gmail.com>

to Meyya

Thank you sir. Let me try to give you the entire flow so that I can have your feedback. Very happy to have conversation with such a great personality. Let me take some more time and let you know. Thank you once again.

63

**“No Objection Certificate” (NOC) from the second author to present
a paper in the International Conference**

I am **Dr.Balamati Choudhury** Co-author for the paper titled "Patch Antenna with a Novel Defected Ground Structure for Increased Bandwidth and Radiation Efficiency" was accepted for the Oral presentation in ICCES 17 Metamaterial Symposium, Madeira Islands in Portugal. I agree & I don't have any objection to present a paper in the conference. This paper has not been published in the same form elsewhere. It will not be submitted anywhere else for publication.

Balamati Choudhury
30/03/2017
(Balamati Choudhury)



Institution of Electronics and Telecommunication Engineers

401&402, 4th Floor, AVR Complex, Balaji Colony, Tirupati - 517502
email: tirupati@iete.org, Tel.: 9247007122

05

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Dear Alexander.O. Raevskii

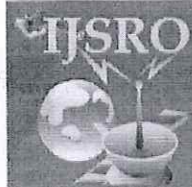
Greetings. Thanks for accepting our manuscript entitled with "**Design of Two by Three Element Fractal Tree Antenna Array for WLAN and WiFi Applications**" to publish in your esteemed journal "Journal of Communications Technology and Electronics.

I am agree for the copyright transfer of the above manuscript as a co-author

Thanking you

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(Jaesool Shim)



Manuscript to editor@ijsro.com on or before 15 Jan 2017

Important Dates

Submission Last Date : 15-Jan-2017
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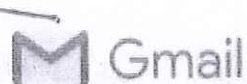
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ICACCI 2017, Manipal, India - Invitation to serve as Reviewer

icacci.manipal@gmail.com <icacci.manipal@gmail.com>
To: Nimmagadda Padmaja <padmaja202@gmail.com>

Sun, Dec 11, 2016 at 1:25 PM

Dear Dr. Nimmagadda Padmaja

We would like to inform you that the sixth edition of International Conference on Advances in Computing, Communications and Informatics (ICACCI'17) (<http://icacci-conference.org/2017/>), will be held in Manipal, Karnataka, India during Sept. 13-16, 2017. Since its inauguration in 2012, ICACCI has developed into a reputable conference and is well attended by experts in all aspects related to computing and information from all over the world.

Manipal is a suburb within the city of Udupi in Karnataka, India. Udupi is a popular pilgrimage centre and tourist spot. It is a land of ethereal beauty, sandwiched between the verdant mountains of the Western Ghats on the east and the vast, tranquil Arabian Sea on the west. The venue of the Conference is Manipal University (<http://manipal.edu/mu/about-us.html>).

On behalf of Organizing Committee, we would like to invite you to serve as a reviewer for the conference. As a leading researcher in the field, your opinions and expertise are very valuable and important for a successful conference. We hope you will accept this invitation.

Please indicate at the URL below whether you can serve on the TPC:

<http://edas.info/Tyn.php?tpc=999121701>

Your EDAS user name is padmaja202@gmail.com

As a reviewer, you would be expected to review a maximum of 3 papers in your area of interest. The review period will be during the month of May 2017.

Thank you for your collaboration!

Best regards,

Chairs, ICACCI-2017, Manipal, India



Certificate

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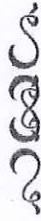


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**5th International Conference on
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21-24 September 2016, Jaipur, Rajasthan, India

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This is to place on record with thanks that Nimnagadda Padmaia
from Sree Vidyaniketan Engineering College & Trustpate, INDIA
was an esteemed Chair for sessions on Signal/Image/video/speech processing/
Computer Vision/Pattern Recognition
in 5th International Conference on Advances in Computing, Communications and Informatics (ICACCI'16)
held at The LNM Institute of Information Technology, Jaipur, Rajasthan, India during 21 - 24 September 2016.

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padma choda <padmaja202@gmail.com>

[WCI-2017] Invitation to serve as member

icacci.manipal@gmail.com <icacci.manipal@gmail.com>
To: Nimmagadda Padmaja <padmaja202@gmail.com>

Tue, Feb 28, 2017 at 11:50 AM

Dear Dr. Nimmagadda Padmaja:

You are invited to serve as member for Fifth International Symposium on Women in Computing and Informatics (WCI-2017) - <http://icacci-conference.org/2017/wci-home>. The Symposium is co-affiliated with ICACCI-2017. The Conference will be held in Manipal, India during September 13-16, 2017. ICACCI-2017 is technically co-sponsored by IEEE Communications Society.

Please indicate at the URL below whether you can serve on the TPC:

<http://edas.info/Tyn.php?tpc=999230835>

Your EDAS user name is padmaja202@gmail.com.

Regards,

Chairs, ICACCI-WCI 2017
<http://icacci-conference.org/>



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TO WHOM IT MAY CONCERN

Date: 24/09/2016.

Ref. No: IKP/PR/Cert/ 2016/AJOMCOR/4326

We hereby certify that **Dr. Nimmagadda Padmaja** of **Jawaharlal Nehru Technological University, Anantapur, India** was invited for peer reviewing of the below mentioned Manuscript.

Journal Name: *Asian Journal of Mathematics and Computer Research*

Manuscript Number: 2016/AJOMCOR/4326

Title of the Manuscript: *Application of Condorcet, Bordo, Kopland and Simpson rules to rational organization and control ground observation set network of remote sensing of urban air*

Dr. Nimmagadda Padmaja completed the review in time and submitted very important review comments, which helped to maintain the high peer review standard of this international journal. We sincerely thank you for your time and service.

Thanking you.

(Mr. P. Mondal)

Director, International Knowledge press

DESIGN AND SIMULATION OF DIGITAL BEACON RECEIVER

By

V. REVATHI *

P. PARVATHI **

G. HEMACHANDRA ***

* PG Scholar, Department of Electronics and Communication Engineering, Sri Vidyankethan Engineering College, Tirupati, India.

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Date Received: 05/05/2017

Date Revised: 12/06/2017

Date Accepted: 22/07/2017

ABSTRACT

The detailed simulation of Digital Beacon Receiver which consists of Low Noise Block Converter (LNBC) and L-band Down Converter (LBDC) by using Keysight Technologies Advanced Design System (ADS) Software. In the propagation path between satellite to ground stations, some natural phenomena such as atmospheric gases, watervapour, oxygen molecules, clouds, rain, dust, fog, existing in different layers of the atmosphere, including troposphere can cause some impairment on the availability and quality of satellite link service periods. This natural phenomenon cause errors and problems such as attenuation change in polarization, fading delay and dispersion. Particularly at higher frequencies such as Ku and Ka bands, effects of those propagation phenomena will not be neglect able and they should be considered. For reliable and secure satellite communication theoretical and experimental propagation study in different frequencies and region is essential. ISRO has setup two beacon signals at 20.2 and 30.5GHz on board GSAT-14 for this purpose. There is a different method to study satellite wave propagation such as radar, radiometer, signal beacon method and satellite beacon method. Satellite beacon method is one of the most important reliable and inexpensive methods in comparison with the other methods. This paper presents the design simulation of the receiver setup for the above purposes.

Keywords: Low Noise Block, L-Band, ADS Software, Digital Beacon Receiver, Budget, Chebyshev BPF.

INTRODUCTION

Ka band suffers attenuation due to rain and India being a tropical region, the impact of rain on Ka band propagation is more severe [1]. None of the existing ITU models are validated for predication attenuation correctly and hence it calls for a new propagation experiment to validate the existing models and come out with more suitable and accurate models to have a guaranteed QOS. The experiment involves measurement of beacon amplitude, rain rate and other meteorological parameters. The Ka band digital beacon receiver is an integral sub-system of this experiment to measure beacon amplitude with greater accuracy with a large dynamic range and to provide the amplitude data every second to the mathematical models for further prediction. The challenge involves co-polar and cross-polar amplitude measurement with higher accuracy over

a large dynamic range at faster update rate.

1. Objective

Designed a unique low-cost Digital Beacon receiver at 20.2GHz frequency with dual polarization using a single antenna system using low noise RF design and Digital Beacon receiver and it was simulated by Keysight Advanced Design System (ADS) software. The performance of the receiver system has been considered for different input power levels using various simulation techniques such as Harmonic Balance, S-parameter, Power budget Analysis and Transient Simulation. The digital receiver and signal processing system and estimate the signal strength of the beacon signal.

2. Satellite Link Calculations

The information carrying capacity of any radio communication link is determined by the RF power at the receiver input [2].

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TreeNet Analysis of Human Stress Behavior using Socio-Mobile Data

B Padmaja*, VV Rama Prasad, KVN Sunitha

Department of CSE, JNTUH, Hyderabad, Telangana, India

Department of CSE, Sree Vidyanikethan Engineering College, Tirupati, Andhra Pradesh, India

Department of CSE, BVRITH College of Engineering for Women, Hyderabad, Telangana, India

*Corresponding author, e-mail: b.padmaja@gmail.com

Abstract

Human behavior is essentially social and humans start their daily routines by interacting with others. There are many forms of social interactions and we have used mobile phone based social interaction features and social surveys for finding human stress behavior. For this, we gathered mobile phone call logs data set containing 111444 voice calls of 131 adult members of a living community for a period of more than 5 months. And we identified that top 5 social network measures like hierarchy, density, farness, reachability and eigenvector of individuals have profound influence on individuals stress levels in a social network. If an ego lies in the shortest path of all other alters then the ego receives more information and hence is more stressed. In this paper, we have used TreeNet machine learning algorithm for its speed and immune to outliers. We have tested our results with another Random Forest classifier as well and yet, we found TreeNet to be more efficient. This research can be of vital importance to economists, professionals, analysts, and policy makers.

Keywords: reality mining, social network analysis, sensor data, human stress

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1. Introduction

The Internet and mobile phone technologies have become part our daily lives and it transformed the way of working and social interactions of modern societies. Modern day smart phone technologies contains a class of mobile applications, which supports social interaction among individuals, exploiting the growing power of smart phones to offer a variety of services.

Nathan Eagle and Alex Pentland from Media Laboratory, MIT coined the term "Reality Mining" which is the collection and analysis of machine-sensed sensor data pertaining to human social behavior, with the goal of identifying predictable patterns of human behavior [1]. Human interactions are studied based on the usage of Smart phones and GPS systems and assemble a more complete picture of what individuals do, with whom they communicate and where they go.

Reality mining research shows the pattern of movement, known as behavior pattern, between the places where a person works, lives, eats and hangs out [2]. Social behavior of people has been shown to affect their obesity levels [3], reproductive fitness [4], productivity [5], software adoption [6], college choices, substance abuse, political affiliations [7], health characteristics [3, 8], spending behavior [9], happiness [10] and financial status [11]. Few reality mining experiments also focus on sleep and mood as they have significant public health impact with societal and financial effects [12].

In the last decades, many researchers in sociology have described stress behavior as a social construct by pointing out humans social influences which play a major role. And call log based social interaction patterns provide more predictive power on human stress.

The organization of the paper is as follows. We survey the related work followed by listing out the social network measures used in this paper. We present a TreeNet Gradient Boosting technique for characterizing stress behavior, and discuss the socio-mobile and stress features used to study the interconnections. Next, Social network features are listed out according to their priority and the influence of top predictor on the target class is shown through visualizations.

An Efficient Approach for Evolution of Functional Requirements to Improve the Quality of Software Architecture

Artificial Intelligence and Evolutionary Computations in Engineering Systems pp 775-792

- M. Sunil Kumar (1) Email author (sunilmalchi1@gmail.com)
- A. Rama Mohan Reddy (2)

1. Department of CSE, Sree Vidyanikethan Engineering College, Tirupati, India
2. Department of CSE, S.V.U. College of Engineering, SV University, Tirupati, India

Conference paper

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Abstract

Software architecture will be designed within the early phases combined with the development process; the huge constraints makes it possible for the achievement of certain functional requirements, quality attributes (non-functional requirements), and also business goals. Metaheuristic search algorithm performs an important role within the software architecture design to improve the performance of obtaining an optimal solution from the huge search space. This particular paper mainly focusses on balancing the combinations of "Adaptive Genetic algorithm," which has to be applied. It has incorporated the usage of roulette wheel selection operators; this technique is implemented in java and it also finds out global minima as well as time reduction when compared with Genetic algorithm.

Keywords

Software architecture Functional requirements Quality attributes Responsibility
Metaheuristic search algorithms Adaptive genetic algorithm Simulated annealing

References

1. Pan W. Applying complex network theory to software structure analysis. World Acad Sci Eng Technol. 2011;60:1636-42.

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Tuesday, 3 January 2017

Improving the accuracy of traceability links through Trustrace

Vol. 4 Issue 1
Year:2015
Issue:Dec-Feb

Title:Improving the accuracy of traceability links through Trustrace
Author Name:G. Anitha, D. Obulesu and A. Srinivasulu

Synopsis:
Software requirement specification is a very important early phase in the software development life cycle. There must be maintaining consistency between source code and document of a system to produce a quality product. Traceability can be used for showing that source code of a system is consistent with the requirements. Developers

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Survey on Semantic Indexing of High dimensional Data with Deep Learning Techniques

Lakshmi Haritha Medida*, Kasarapu Ramani**

* Assistant Professor, Department of Computer Science and Engineering, BV315, Amalapuram, A.P., India.
** Professor and Head, Department of Information Technology, Sree Vaidyanathan Engineering College (Autonomous), Tirupati, A.P., India.

Abstract

Deep Learning is the trending area of research in Machine Learning and Pattern Recognition. Deep Learning focuses on Machine Learning tools and techniques, and applies them in resolving complications which lacks human or artificial thoughts. Deep Learning is achieved by learning over a cascade of many layers. Deep Learning handles many real world complications, such as Machine translation, Object recognition and Localization, Speech recognition, Image

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Source: Journal on Software Engineering - Jan-Mar2016, Vol. 9 Issue 3, p1-10, 10p
Author(s): LAKSHMI, P. DHANA; RAMANI, K.; REDDY, B. ESWARA

Abstract: Opinion mining applications play a major role in identifying user perspectives. To extract useful information from huge volume of web resources, discussion forums, review sites and blogs is becoming a challenge. Majority of opinion mining approaches for feature extraction is biased on static keywords appearing in single product review documents which may omit even relevant reviews. An automated opinion mining mechanism to produce summary of opinions based on a set of product reviews and multiple product features is needed. In this paper a technique for product feature relevance analysis using text mining concepts is proposed. The experimental results on Amazon mobile and other products review data shows the improvement in accuracy and efficiency of the proposed system over existing techniques.

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REAL TIME IMPLEMENTATION ON MEDIA PRESENTATION DESCRIPTION FOR MPEG-DASH.

Source: Journal on Software Engineering, Jan-Mar2015, Vol. 3 Issue 3, p11-20, 10p
Author(s): BABU S., DILLI RAMANI, K.; OBULESU, G.

Abstract:
In video transmission based applications, different users use variety of devices with varying internet bandwidth. Adaptive Bitrate Streaming (ABS) is a technique which is used to configure the streaming multimedia over network of networks. Adaptive streaming uses a source video format that is encoded at multiple bit rates. Motion Pictures Expert Group (MPEG) - Dynamic Adaptive Streaming over HTTP (DASH) is the latest online adaptive streaming video space technology. In DASH, Media Presentation Description (MPD) is an XML document that contains metadata which is required by a DASH client to construct appropriate HTTP-URLs to access the segment information and to provide the streaming service to the authorized users. The proposed method enables to share production of multiple files, distribution of file and transparent operation to overcome fragmentation and low quality of experience. In this paper, Media presentation description module in DASH is implemented as per the specification of ISO Standard (ISO/IEC 23009-1) second edition 2014-05-15, and the coding guideline of DVD-FF Record Engine.

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Robust hash generator

link.springer.com



Multimedia Tools and Applications
June 2016, Volume 75, Issue 11, pp 6585–6604 | [Cite as](#)

Robust hash generation technique for content-based image authentication using histogram

Authors: Authors and affiliations

Lotanandham Naidu Vadlamudi, Rama Prasad V. Vaddella, Vasumathi Devara

Article
First Online: 05 May 2015

199 Downloads 1 Citations

Abstract

In this paper, a robust hash technique for image content authentication using histogram is proposed. The histogram based hash techniques reported in the literature are robust against Content Preserving Manipulations as well as incidental distortion. The major drawback of these techniques is that, they are not sensitive to Content Changing Manipulations and also un-altered histogram image modifications. To overcome these drawbacks, we present a novel hash

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2139 14-12-2017

Report on XLR8ap Workshop

XLR8ap (Accelerate AP), a Global Accelerator is set up by the **GoAP , APIS (AP Innovation Society)** at **Tirupati**. As a part of its services to academic partners, various programs like workshops, lectures and business counseling are being conducted regularly. On **December 7, 2016** , XLR8ap Workshop was conducted from **9.30 a.m to 2.00 p.m** at RCR Avenue, Karakambadi Road. Senior level faculty from various institutions nearby Tirupati attended the workshop.

The **main objective** of the workshop is to understand what is needed to create an Enabling Ecosystem for **Entrepreneurship Development** and to provide exposure how a technology is taken to commercial stage and to market for **enabling new startups**

The workshop started at 9.30 a.m by a formal introduction of XLR8ap, their team and its objectives by **Ms.A.P.Aruna** Programme Manager XLR8AP, Tirupati. **Mr.Glenn's Robbinson**, MD, XLR8AP gave a brief introduction and report on the activities of their accelerator worldwide. He then introduced **Dr.Nahum Goldmann**, a leading expert and a renowned lecturer on building and securing e commerce and e governance solutions.

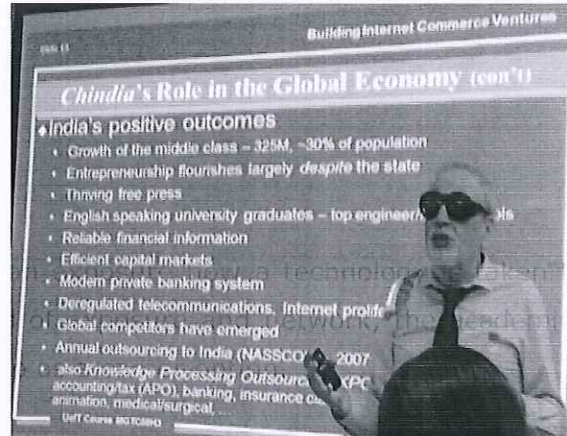
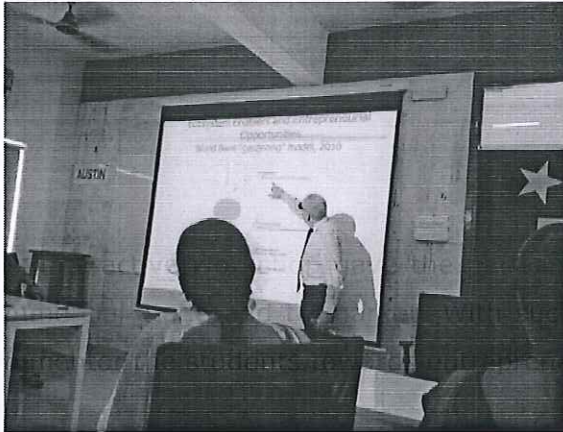
Dr.Nahum Goldmann from Canada delivered a talk "**Ecosystem Enablers in Global World**" about the IC2 practices that would be good enough to get an idea about what is happening around the world in entrepreneurship space. He mainly focused on understanding the process flow from idea to Commercialization and how to take up research for commercial success.

From 11 a.m to 12.30 noon, there was an interactive session with the startup companies and with the members of the **Cohort-1 startup companies**. Several entrepreneurs discussed about their business plans, requirements, opportunities, competitions, strategies and their future ideas.

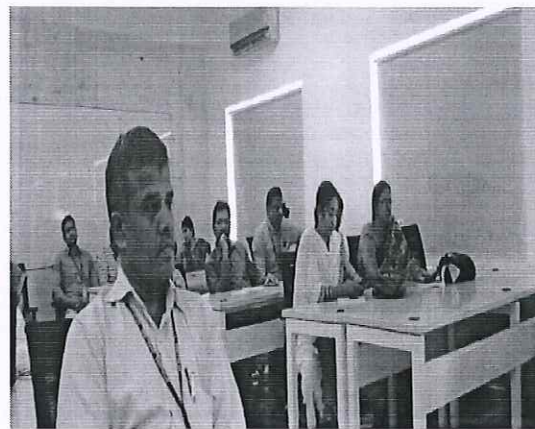
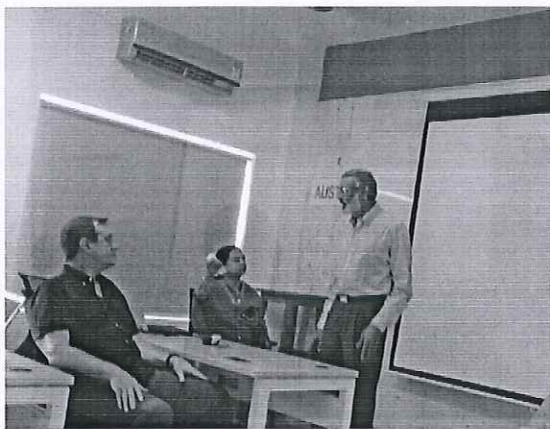
Further from 12.30 noon to 2.00 p.m, Dr.Nahum Goldmann delivered a talk on "**Building Internet Commerce Ventures**" and "**Chindia's Role in the Global Economy**".

This interactive workshop gave the participants an exposure how a technology is taken to commercial stage and to market. With such kind of exposure and network, the academics can mentor the students towards entrepreneurship as a career option.

The program ended with a formal vote of thanks at 2.00 P.M followed by Lunch.



Dr. Nahum Goldmann from Canada delivering the talk



Interactive session with the members of the Cohort-1 startup companies and Participants from various Institutions

**Dr. N Padmaja
Professor of ECE
SVEC, Tirupati**



padma choda <padmaja202@gmail.com>

Inviting to act as an Editorial Board Member - reg

Prakasam P <prakasamp@gmail.com>
To: padmaja202@gmail.com

Thu, Feb 25, 2016 at 10:48 AM

Dear Prof. Dr. N. Padmaja,

Greetings from Prof Dr.P.Prakasam.

Myself Dr.P.Prakasam, working as a Professor/Principal at United Institute of Technology, Anna University, India. As a technical contribution to the society, I have started a 100 % double blind review non-profitable journal in the area of Signal Processing and Wireless Networks.

Name of the Journal: **Journal of Signal Processing and Wireless Networks**

Website: www.jspwn.com

I have gone through your profile and I understand that you are expertise in the filed of Signal/Image Processing/Wireless Networks. Hence I invite you to be a part of JSPWN team as Editorial Board Member.

Hope you will accept my request and we will work as a team for the betterment of the society.

I am expecting positive reply.

—
Thank you

With regards,

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United Institute of Technology,
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&

Editor-in-Chief
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Certificate of Reviewer

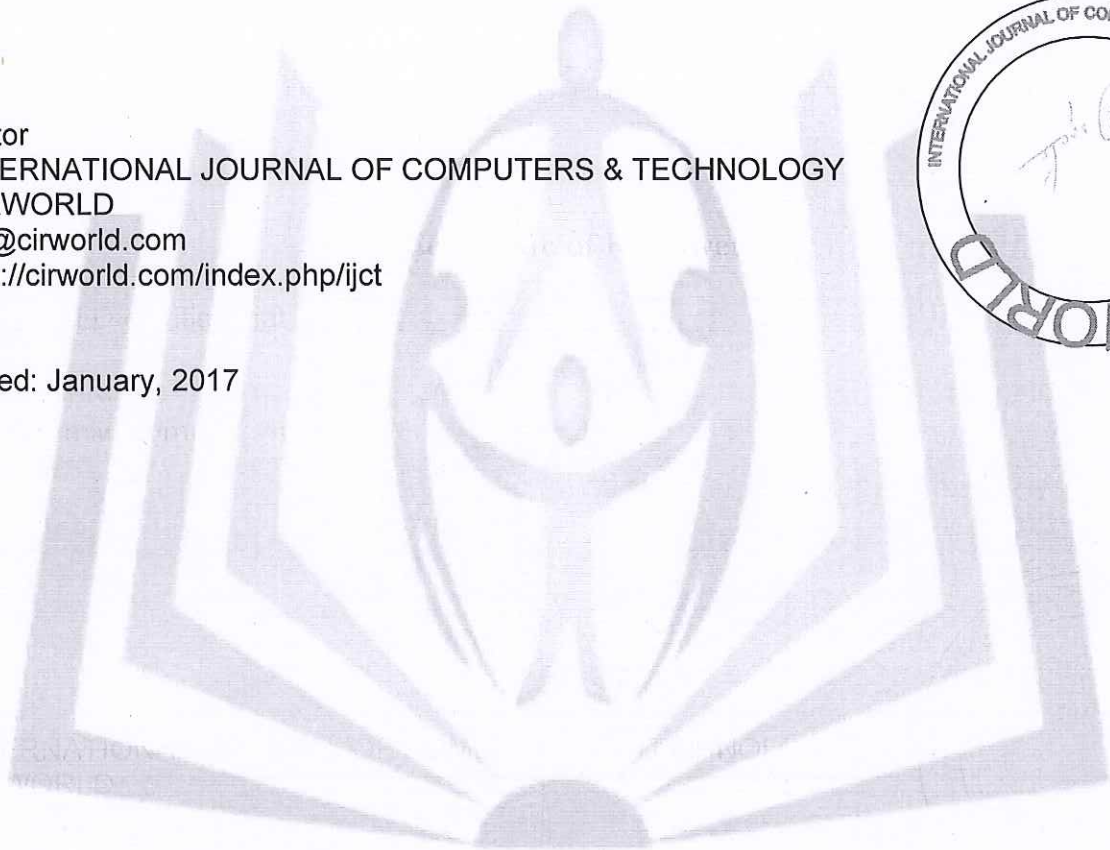
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Dated: January, 2017



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OPVD Based Video Steganography with High Capacity

V.Navya¹ V.Komala Devi² U.Somalatha³ P.G.Mamatha

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Assistant Professor, Dept. of ECE, YITS, Tirupati, Andhra Pradesh²
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Abstract—Information security has become the area of concern as a result of widespread use of communication medium over the internet. Therefore different video steganography algorithms like least significant bit substitution (LSB), pixel value differencing (PVD) have been proposed to hide large amount of information inside a video but these methods provide less secure of information. So new Octonary PVD approach is proposing to improve the efficiency and Data security in video Steganography with high embedding capacity while concurrently sustaining the video quality.

In this approach, frames in video are selected using pseudo random order to hide the data and within a frame it performs pairing a pixel with all of its neighbors in all the eight directions to increase the embedding capacity and the number of bits embedded in each pixel is based on the nature of its region to enhance the perceptual quality. MATLAB tools are used to implement this proposing technique.

Keywords—Data hiding, video steganography, pseudo random sequence, Pixel value differencing.

1. INTRODUCTION

In cryptography, the information is scrambled to transmit it securely but hacker may know the presence of secret data. In view of this, steganography provides the secure transmission of data without knowing even the presence of data. In steganography, the information is hidden inside any one of the cover file like image, video, audio etc. Image steganography hides the information inside an image which hides less information and others also can detect the artifacts if more information is hidden. So video steganography is proposed to hide much more information because video is a set of frames or still images. The artifacts are not detectable if a cover is a video.

The frames in the video act as so the image steganography techniques hide information in each selected frame. A steganographic technique is LSB replacement where every pixel least significant bit is replaced with the secret message bit and it results in low capacity. Other technique is PVD (Pixel Value Differencing)[1] where the difference between neighboring pixels is used to hide information. It hides much information by replacement. Tri way PVD [4] is extended PVD technique which increases the embedding capacity by calculating the difference between pixels in three directions. A novel technique is proposed to hide much more information without affecting the quality of a cover file by calculating the difference of pixels in eight directions.

II. PROPOSED METHOD

A. Embedding Phase

The video is a collection of frames. In the proposed method only some of the frames are selected based on PN-sequence to provide security. After selecting the frames, the embedding technique is directly applied to the secret information. Finally all the frames are combined to form stego frames and original frames to form stego video which is similar to the original video with hidden information.

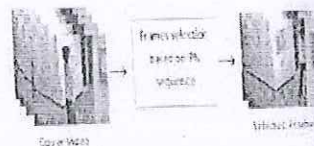


Fig 1: Block diagram of Video Steganography using OPVD

DOA Estimation of Multipath Signals Using ULA Antennas

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Abstract: A smart antenna plays an important role in advanced wireless communication systems. One of the most important property of smart antenna is that it is capable of directing its main beam towards the direction of desired signal and forming the nulls in the direction of interfering signals. The various Direction of Arrival (DOA) estimation algorithms are used to locate the desired signal in smart antenna system. This paper presents an efficient spatial differencing method for DOA estimation of multiple uncorrelated and coherent narrowband signals. In this method, uncorrelated sources are estimated using conventional subspace methods and the remaining coherent signals are estimated using the spatial differencing technique. The performance of this DOA estimation algorithm based on Uniform Linear Array (ULA). Simulation results shows that proposed method can obtain higher resolution and accuracy as the number of array elements increases.

Keywords: Smart antenna, DOA, Spatial differencing, Coherent signals, ULA.

1. INTRODUCTION

DOA estimation for signals impinges on an antenna array is a very important issue for wireless communication systems. Several high resolution methods have been proposed and developed for finding Direction of arrival (DOA) such as multiple signal classification (MUSIC) [1], estimation of signal parameter via rotation invariance techniques (ESPRIT) [2] and smooth music [3]. But, this methods applicable only when the signals are uncorrelated and there is a need for large number of signal snapshots. However, in real environments the signals are coherent or correlated due to multipath propagation. Those high resolution methods will fail in such environments since they essentially require the signals to be uncorrelated.

A commonly applied decorrelation methods to address this problem is spatial smoothing technique. In this technique the original array is divided in to multiple overlapping sub-arrays, and then averages the sub-arrays output covariance matrices to form the spatially smoothed covariance matrix [4]. This method does not work well as the signals become highly correlated. Under a mild restriction, the required number of antennas can be further reduced by using an improved spatial smoothing scheme referred to as the forward backward spatial smoothing (FBSS) technique [5]. With the combination of FBSS technique and MUSIC to estimate DOAs. This method is referred to as FBSS MUSIC. Unfortunately, this technique requires the number of sensors in each sub array should be greater than the number of signals and the number of sub arrays is greater than or equal to the number of signals. Sarkar

and Hua [6], [7] utilized the matrix pencil (MP) based on the spatial samples of the data. The analysis is done by snapshot-by-snapshot basis, therefore non-stationary environments can be handled easily. Matrix pencil method can find DOA easily without performing the additional processing of spatial smoothing as required in some of the conventional covariance matrix based techniques. However, the required signal-to-noise-ratio (SNR) is too high to put the method in to application. An ESC [8] method is proposed for the estimation of DOA in the presence of uncorrelated and coherent signals. The uncorrelated signals are estimated firstly by using the conventional subspace methods and their contribution is eliminated by ESC of the array. Finally, the remaining coherent signals are estimated by utilizing the non-Toeplitz matrix. The number of signals resolved by the ESC method can exceed the number of array elements. However, the computational cost of the ESC method is high, whereas, the performance degrades with utilizing only one constructed matrix. A spatial smoothing differencing method is presented in [9]. It utilizes the forward smoothing matrix and the backward smoothing matrix to eliminate the uncorrelated sources. This method can resolve more sources. Unfortunately, the differencing matrix is rank deficient for odd number of coherent signals after the covariance matrix of uncorrelated signals is subtracted. Thus, it needs extra processing to recover the rank. Some methods based on a higher order cumulants are proposed in [10], [11] to resolve more signals. However, these methods require a more number of snapshots and call for an enormous amount of computations.

In this letter, a new spatial differencing method is proposed for DOA estimation in the presence of uncorrelated and coherent signals coexist. The uncorrelated signals are estimated firstly using conventional subspace methods, and their contribution is eliminated by exploiting the proposed method, such that only coherent signals remain in the spatial differencing matrix to estimate the coherent signals.

The rest of the paper is organized as follows. The signal model is presented in section 2. Section 3 focused on DOA estimation of the proposed method and related formulations. In section 4, simulation results are presented to illustrate the performance of the proposed method. Finally, section 5 concludes the paper.

2. SIGNAL MODEL

Consider K narrow band signals $s(t)$, from directions θ_i ($i = 1, 2, \dots, K$), impinging on a uniform

Simulation of Frequency Reconfigurable Square Log Periodic Microstrip Antenna Array



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Abstract -This paper describes the design and analysis of a frequency reconfigurable square microstrip patch antenna using the log periodic technique. The three square patches are fed by inset feed line technique and are connected with a single transmission line by a log-periodic array formation to form a wideband frequency from 2.9 to 3.4 GHz. By applying three PIN Diodes at the transmission line, two different sub-band frequencies are configured by switching ON and OFF the PIN Diode. Simulation results of return loss, realized gain, directivity for every sub bands also presented and discussed along with the antenna design.

Keywords - log-periodic antenna, reconfigurable frequency, PIN diode, wideband, microstrip

1. INTRODUCTION

Reconfigurable antennas have received much attention than the passive antennas as they can provide diversity functions in operating frequency, polarization, and radiation pattern to wireless. The reconfiguration can be implemented through the PIN diode switches [2], MEMS [5] or varactor diodes. However, electronic tunability using PIN diode is more frequently used because of its efficiency and reliability especially in dynamic bandwidth allocation. There has been a dramatic increase in the awareness of reconfigurable antenna for applications in future wireless communications such as cognitive radio [8], RFID applications, ground penetrating radar applications and multi-frequency communication. The advantage of frequency reconfigurable antenna is that it can be reconfigured into any frequency in wideband range and can change dynamically, either transmitting or receiving on a single antenna instead of using multiple antennas as usual.

Microstrip patches are often used as single element antennas in certain applications, but in case of conventional microwave antennas, characteristics such as high gain, beam scanning, or steering capability are possible only when discrete microstrip patches are combined to form arrays [10,11]. The frequency independent behavior of an antenna is very useful as it increases its area of application

In [3], Yang and Rahmat Samii presented a more practical way to construct a frequency-reconfigurable patch antenna by introducing a switchable slot. A vertical slot is cut in the patch antenna with a diode switch placed across the slot in the middle. When the switch is on, the horizontal main current of the patch's first resonance is only slightly disturbed as compared to the case with no slots. But when the switch is turned off, the horizontal current is forced to detour around the slot and travels a longer path; as a result, the patch antenna resonates at a lower frequency.

In this paper, a log-periodic antenna with the feature of reconfigurability is developed to meet the requirements in terms of the return loss, radiation pattern, gain, and ease of integration with switching circuitry. The proposed antenna is designed from the combination of three elements by using the logperiodic technique with the scaling factor of 1.05. As each element radiates at different frequency bands, the logperiodic antennas are easy to select required band from wideband, when compared with other wide band antennas. The IE3D software is used to carry out the simulation for the reconfigurable log periodic antenna.

The antenna is analyzed based on several parameters such as return loss, radiation pattern, gain, directivity and bandwidth.

2. ANTENNA DESIGN

The geometrical structure of the proposed three element logperiodic microstrip antenna with reconfigurability is as shown in figure 1. The concept of frequency reconfigurability is investigated based on changing the position of the switches to ON or OFF. This antenna can perform in frequency range from 2.9 GHz until 3.4 GHz with two different sub bands. There are three circular patches with inset fed lines, which are connected with a log-periodic array formation to a 50 Ω microstrip transmission line on a top layer of substrate. The antenna structure is developed on a FR-4 substrate which has relative permittivity of 4.5, with a thickness of 1.6 mm and loss tangent of 0.019.

The log periodic microstrip antenna is a more conventional approach for the implementation of a broadband antenna. The basis of this design is the linear array of coplanar patch antennas with the size and spacing of the patches increasing in a log periodic manner. The design principle for log-periodic wideband microstrip antenna requires scaling of dimensions from period to period so that the performance is periodic with the logarithm of frequency. The patch diameter (d) and the inset feed distance (I) are related to the scaling factor (τ) by equation as shown below.

$$\tau = \frac{d_{m+1}}{d_m} = \frac{I_{m+1}}{I_m} \quad (1)$$

The first patch (lower frequency) diameter is 13.81 mm with resonant frequency at 3 GHz and it is scaled by a factor of 1.05 to obtain the second patch dimension of 13.15 mm which has a resonant frequency at 3.15 GHz. Second patch diameter is once again scaled by a factor of 1.05 to obtain the third patch diameter of 12.52 mm with a resonant frequency at 3.3 GHz. The space between each patch (D_m) is a half wavelength apart thus giving a forward fire radiation pattern and reducing mutual



MEMORANDUM OF UNDERSTANDING

Between

**DEPARTMENT OF CIVIL ENGINEERING
SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)
A. RANGAMPET**

AND

**SARATHY GEOTECH & ENGINEERING SERVICES PVT. LTD.
BANGALORE**

This Memorandum of Understanding is entered into on this **21st day of November 2016** between Department of Civil Engineering, Sree Vidyanikethan Engineering College (Autonomous), A. Rangampet (hereinafter called SVEC) situated at A. Rangampet, Tirupati-517 102, Andhra Pradesh and Sarathy Geotech & Engineering Services Pvt. Ltd., # 671, 6th C Main, 11th Cross, 3rd Phase, JP Nagar, Bangalore – 560078, Karnataka, India (hereinafter called "SGES" which expression shall include its successors and permitted assignees) with its registered office at Bangalore.

1. PREAMBLE

Sree Vidyanikethan Engineering College was established in the year 1996 by Dr. M. Mohan Babu, a renowned movie artiste, producer and former Member of Parliament (RS) and Padma Shri Awardee has grown in its size and stature over the years, from an initial intake of 180 to 2094 students to serve the cause of technical education in the backward region of Rayalaseema of Andhra Pradesh. The grand vision of the Chairman, missionary zeal of the CEO Mr. Vishnu Manchu, object oriented management, competent faculty and brilliant students are the hallmarks of the Institution. The College now offers 5 Diploma, 8 B.Tech, 7 M.Tech, 2 Research Programs and MCA with faculty strength of over 500. The College is located in a sprawling campus of about 30 acres, amidst sylvan surroundings with aesthetically built infrastructure at Sree Sainath Nagar area in the temple town Tirupati. The College is known for its quality initiatives which are reflected in accreditations by NBA, NAAC and many multinational organizations such as TCS and IBM.

[Handwritten signature]





SGES possess in-house engineering expertise gained with experience. One highlight of SGES's service is to help clients understand the key aspects involved in site specific engineering.

SGES diverse talented expertise has helped many clients by giving cost effective solutions. SGES prides it selves on its proven track record for effectively solving several site specific engineering problems.

2. OBJECTIVE

The Core objective is to establish a long term linkage with SGES to reduce the gap between Company expectations (practice) and academic offerings (theory) by direct involvement of Company to attain a symbiosis.

Thereby, Company, Institution, Faculty, Students and Society stand to gain with a synergistic partnership. The Institutions stand to gain by way of updated curricula, consultancy and R & D, source of manpower for employment, societal relevance, and most importantly acquisition of brand name/equity; Company stands to gain by way of availability of employable manpower pool, and increased productivity; faculty stand to gain by way of exposure to latest Company practices for more effective teaching-learning processes, students stand to gain through hands-on training, reduction of learning curve in industrial practices; and, society stands to gain by way of improved quality of goods and services.

3. SCOPE

(a) The Key benefits from SGES to SVEC are:

- Participating in bodies as the Board of Governors, Academic Council, Boards of Studies, Industry-Institute-interaction Cell and College Research Mentoring Cell
- Participating in curriculum design, development and update of the civil engineering programs.
- Deputing senior SGES personnel as adjunct faculty
- Partnering with Institution in establishing new laboratories and incubation centers.
- Collaborating in joint educational and extension programs.
- Participating in joint R&D activities
- Commercialization of technologies and products from joint intellectual property development.
- Organizing joint professional activities like conferences, workshops and seminars in the field of civil engineering.
- Organizing add-on programs in emerging areas of civil engineering.

0. ————— Udy





- Providing opportunities for student groups to undertake problem-solving projects
- Supporting student research projects
- Training students, faculty and technical staff in new technologies and processes
- Providing assistance for improving employability including internships, entrepreneurial training specialized skill training required by Company and placement opportunities.

(b) The key areas in which SVEC can benefit SGES:

- The existing expertise available with SVEC can be utilized by SGES for technology assessment, up-gradation and absorption.
- Expert faculty can be deputed as members on Committees of SGES involving technology, research and training.
- SVEC will host a SGES regional training and development centre
- SVEC will encourage and enhance the activities and act as a Nodal center for developing new knowledge innovations and technologies which can be adopted by SGES.
- SVEC will undertake consultancy, testing and a few modules of projects of the SGES for implementation.
- SVEC will train the professionals from SGES in domain areas of Geotechnical Engineering
- SVEC will provide a large talent pool of students for recruitment

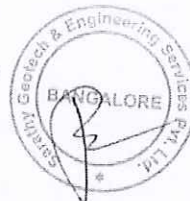
4. GENERAL

- This MOU shall enter in force upon signature by both Parties and remains in force, unless terminated earlier by either Party upon ninety (90) days, written notice to the other Party.
- The termination this MOU shall not affect the validity or duration of projects under this MOU that are initiated prior to such termination.

5. MONITORING AND IMPLEMENTATION

Coordination Committee consisting of The Head of the Department, one senior faculty member of Department of Civil Engineering, SVEC and an officer nominated by the SGES will look into the monitoring and implementation of the various aspects of the MOU. An annual review will be conducted to monitor the progress and in furtherance of the activities covered under the MOU.

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6. SIGNED IN DUPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

For Sarathy Geotech & Engineering Services Pvt. Ltd., Bangalore.

For Dept. of Civil Engineering, SVEC, A. Rangampet.



Signature :
Name : **Dr. C. R. PARTHASARATHY**
Designation: **Group Managing Director**
Place : **Bangalore**
Date : **12-DEC-2016**

Signature :
Name : **Dr. O. ESWARA REDDY**
Designation: **Professor & BOS Chairman**
Place : **A. Rangampet**
Date : **12-12-2016**

Witness:
1. (PRASHANTH TALLAD)
2. (M.V. Sudeendras)

Witness:
1. (B. RAVI SEKHAR)
2. (I. SUDARSHAN KUMAR)

For SVEC, A. Rangampet.

Signature :
Name : **Dr. P. C. KRISHNAMACHARY**
Designation: **Principal**
Place : **A. Rangampet**
Date : **12-12-2016**





Computational Prediction of Ligands with Multiple Protein Targets Involved in Type II Diabetes

P.V. Parvati Sai Arun, G. Apparao Naidu, Allam Appa Rao
and Naresh Babu Muppalaneni

Abstract Based on the clustering coefficient applied in our earlier research paper, a total 10 proteins with high clustering coefficient were selected as the candidate proteins which involve in Type II diabetes. The downloaded PDB structures of these 10 proteins were submitted RASPD server for identification of putative drug targets. For many drug targets generated for each proteins by RASPD, we have selected a total of 10 drug molecules which are good candidates for all the 10 proteins. Further these 10 putative drug molecules were docked with each of the protein PDB and predicted the common drug which have capacity to bind for multiple proteins.

Keywords Drug targets • Protein-Protein interactions • Multi targets • Docking • Type II diabetes

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The Research of Preprocessing and Pattern Discovery Techniques on Web Log files

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Abstract—The increased on-line applications are leading to exponential growth of the web content. Most of the business organizations are interested to know the web user behavior to enhance their business. In this context, users navigation in static and dynamic web applications plays an important role in understanding user's interests. The static mining techniques may not be suitable as it is for dynamic web log files and decision making. Traditional web log preprocessing approaches and weblog usage patterns have limitations to analyze the content relationship with the browsing history. This paper, focuses on various static web log preprocessing and mining techniques and their applicable limitations for dynamic web mining.

keywords—Static Logs, Graph models, Association rules, Web log, Navigation patterns.

I. INTRODUCTION

The personalized web recommendation system is becoming increasingly important due to its high utility and the availability of a large number of web page content. Many researchers have tried to implement online recommended systems by using static behavior models. Static models are used to describe the user's short term profile by using user's web request. The nature of static problems is associated with the historical data, i.e. the lack of interaction between a product and the user and between the two or more products. The existence of missing data in dynamic web content seems to be more significant than the static data. However, to analyze the dynamic web content, the recommended system needs to parse a lot of historical data and predict, how the customer will browse the page or web product [1]. Web log mining is the process of analyzing user behavior and user navigation patterns in static web logs or dynamic web logs. The majority of the web customers are non-experts and find it difficult to study the historical user's patterns and their behavior towards the online content. Moreover, the emergence of online services such as e-commerce, e-banking and e-learning has changed the purpose in which turning web sites into businesses and increasing the business competition[2].

Sequential pattern mining models are applied to discover the frequent web usage patterns between the page requests, session time and browsing history, etc. However, these sequential models have certain limitations such as:

- Need to maintain huge data structure in memory space throughout the execution due to the database scans.
- Increase in memory size due to its high dimensional attributes and values.

- Lack of predicting a user's next access patterns based on historical data.

Web usage mining applications are used to find the web visitors' profiles and their behavior in terms of strengths and weaknesses of their web applications. The main issue focused by any web usage model is data increases per second with different server log file formats. Learning about the customer's behavior, predict their requirements in the future, monitoring the file structure and content of the web service according to their navigation behavior is necessary. Accurate web usage patterns could help to improve the new users, retain existing customers, optimize cross sales, customers' interest, etc. The usage decision patterns can improve the web server efficiency by using different caching techniques so as to minimize the server response time. The user's profile could be designed by integrating customer's page navigation paths with other attributes such as server response, session time, page duration, hyperlink and page content.

Applications of web usage mining include mining conceptual visiting user profile hierarchies and interesting patterns from the web log files for building the frequent web access structures using tree based Markov model or association models. Since web usage mining approaches consider only server logs due to security issue of information on the client side. The set of limitations of the server side are :

- IP addresses and sequence of page requests in the log file are not a reliable fields, because some pages are cached by the web server or browser and proxy.
- It is difficult to interpret the session duration in the server log file, as the same IP address can be used different users at different intervals (i.e. 30 minutes default time).
- Also server log files are difficult to predict without log preprocessing.
- Since server log files have different structures and formats, it is difficult to apply same preprocessing or knowledge based techniques.

A. Static Web Pattern Mining:

The basic structure of the static web log framework has four phases namely static data collection, data cleaning, pattern discovery techniques and pattern analysis with output. This framework can be shown in Fig.1. In the first phase, static web log files are extracted from the server in one of the standard formats using temporal basis. Since, the server log files are raw data with uncertain information, it is preprocessed using field extraction, user identification and session

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Efficient Techniques for Clustering of Users on Web Log Data

P. Dhana Lakshmi, K. Ramani and B. Eswara Reddy

Abstract Web usage mining is one of the essential framework to find domain knowledge from interaction of users with the web. This domain knowledge is used for effective management of predictive websites, creation of adaptive websites, enhancing business and web services, personalization, and so on. In nonprofitable organization's website it is difficult to identify who are users, what information they need, and their interests change with time. Web usage mining based on log data provides a solution to this problem. The proposed work focuses on web log data preprocessing, sparse matrix construction based on web navigation of each user and clustering the users of similar interests. The performance of web usage mining is also compared based on k-means, X-means and farthest first clustering algorithms.

Keywords Web usage mining • Sparse matrix • Clustering • Influence degree • K-means • X-means and farthest first algorithm

1 Introduction

Digitalization of information and rapid growth of information technology lead to enormous data in all domains in variety of formats and entire data may not be useful to all users as it is. Data Mining helps to extract only relevant information from these large repositories. Web is a huge repository of text documents and multimedia data. Mining useful data from the web is known as web mining and it is classified as: Web content analysis, web usage mining, and web structure analysis.

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Web Forum Questions using Answers Retrival Information

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ABSTRACT

Forum, or message board, is an online discussion site where people can hold conversations in the form of posted messages. Often many number of users can answer for a question, problem here is predicting the most relevant answer for a question. This paper presents a clustering model using WordNet to find out the relevant answers for the question. In this project a new methodology is put forward for question-answer (QA) model. The most relevant answer for the question is selected by using this methodology. Here the stop words are removed from both question and answers. The answers without stopwords are clusters separately; say if there are n numbers of answers we have n number of clusters. Similarly stopwords are removed from the question and clustered with WordNet. WordNet is a word database, we collect the similar words for the question terms using WordNet and clustering it. Finally the answer clusters and question cluster are compared, the answer cluster which has the close relationship with the question cluster is chosen as a best answer for the question.

Keywords- Forums, Question-Answer, Word Net, Clustering.

I. INTRODUCTION

An International Computer Network (Internet) has become a major tool for Communication, Training, Fundraising, Media Operations, and Recruitment. Now the new trend for this Process is Forums. Web forums have become important places for social communication and discussion on the internet. The major problem in forums is to finding the best answer for a Question.

These papers will choice a clustering model to figure out the most relevant answer for the question, where WordNet is used for clustering. Clustering is the collection of similar objects. It is a main task of exploratory data mining, and a

common technique for statistical data analysis, used in many fields, including learning, pattern, image analysis, information retrieval, and bioinformatics. WordNet is a large lexical database of English [5]. Noun, verb adjectives and adverbs are grouped in a set of synsets. The main purpose of word net is to produce a mixture of dictionary and thesaurus [4]. Before that the stop words are removed. Stop Words are words which do not contain important significance.

II. RELATED WORKS

Screening that it is feasible to develop existing large collections of question-answer pairs to extract such features and train ranking models which combine them effectively. These experiments reveal that linguistic skin texture, in grouping, yield considerable improvements inaccuracy. Depending on the system settings it calculate relative improvements of 14% to 21% in Mean Reciprocal Rank and Precision@1, providing one of the most compelling evidence to date that complex linguistic features such as word senses and semantic roles can have a significant impact on large-scale information retrieval tasks [1]. While most vocabulary knowledge systems offer only one-dimensional semantically related words (synonyms, antonyms, hyponyms, hyponyms, etc.) of the objective words, this study enhances the previous language learning systems by providing dynamic two-dimensional NSSL words (near-synonyms and similar-looking) through WorldNet [2]. In this study, the projected approaches can proficiently and correctly perform semantic based information retrieval. In addition to semantic-based information retrieval, the proposed system has two significant parts: a semantic extension model which employs latent semantic analysis to generate more semantics for matching, thereby solving the problem of insufficient information for query; and a semantic clustering model which uses k-means clustering algorithm based on neighbours and then performs content

Bending of Composite Plates Using Classical Laminate Plate Theory

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Abstract-

Most important aim of this current study is to build up a MATLAB program on fiber Reinforced Composite (FRC) laminates and to investigate how mechanical loading would affect the deflection and the stress & strain distribution of the FRC. The program is established by comparing the computed values with the literature. Laminated composite plates have found widespread applications in the building of engineering structures due to the several attributes of the composites such as light weight, high strength, high stiffness as well as excellent fatigue and corrosion resistance properties. purpose of this work is to develop frequently used laminate plate theory namely the classical laminated plate theory (CLPT) to determine effect of stacking sequence on transverse deflections and stresses in specially orthotropic square laminate subjected to various types of mechanical loads. This work deals with the generation of MATLAB script files that assists the user in the design of a composite.

Index Terms- Composite Laminates, ABD Matrix, Fibre Angle, MATLAB, Stiffness, Composite Design.

INTRODUCTION

Composites are extremely versatile materials and may be customized to suit any function. They have found uses from the aerospace industry to common everyday applications. However, one drawback of these materials is tedious design processes [2]. Therefore, in an attempt to reduce this time consuming phase, it was decided to develop a computer program that assisted the user in designing a composite structure. The program needed to perform the necessary calculations in the fraction of the time it would take if done using conventional techniques. Conventional methods for designing composite structures involve the use of Hooke's law for two-dimensional unidirectional composites [1]. Equations relating the stresses and strains in these materials have been developed and are available from various texts. However, these equations are limited to flat unidirectional laminates. The procedure to follow is quite laborious. The material properties, material limits, number of fibre layers, and the fibre orientation and thickness of each layer as well as the loading conditions need to be known.

LITERATURE REVIEW

The different methods used to examine the fibre reinforced composite laminate of varying thickness. In the current study, the software MATLAB is used. It provides an easy way to analyze lamina and laminate of fibre reinforced composite by programming the formulae commonly used. The classical laminate theory is based on the Kirchhoff assumptions, in which transverse normal and shear stresses are neglected. This implies that the normal stress through the thickness is ignored; an assumption which is also called the "plane stress" condition. This leads to a situation where the displacement through-the-thickness is not necessarily linear and where the plate thickness may change during deformation. While depending on the stacking sequence of varying thickness layers, laminate may also exhibit different response in terms of stress and moment. Therefore, this research will focus on analyzing the fibre reinforced composite laminate of varying thickness where the stress, strain, and deflections of laminate will be computed by means of programming approach which based on the classical laminate theory with MATLAB procedure. This method is used to analyze the fibre reinforced composite laminate of varying thickness. It provides an easy way to analyze lamina and laminate of fibre reinforced composite by programming the formulae commonly used.

Each and every data concerning each layer (E1, E2, G12, ν_{12} , ν_{21} , [Q], [T], and [Q]) were stored in an array. The data in this array was used to calculate the [A], [B], and [D] matrices. Using these matrices and the applied loading conditions, the global and local stresses and strains were computed. The local stresses were compared to the material limits, via the Tsai-Wu failure criterion, to determine whether the composite will fail. A script file was written that controlled the use of each function. The purpose of the functions was to enable easier programming in future. This program was tested against manually calculated examples in the various texts [2] and the results were exactly comparable to the manual computations. In an example (Example 4.3) by Kaw [3], the stresses and strains in a graphite/epoxy composite laminate were examined correspondingly. The resulting global strains, global stresses,

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Evaluating Very Fast Decision Tree (VFDT) Algorithm for Detecting Network Intrusion

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Abstract— With recent advances in network based technology needs protecting computers and networks which becomes a huge problem. Based on information coming from various response teams a computer was attacked or broken into more than once per second. In this paper, two grains levels intrusion detection system (IDS) is suggested fine-grained and coarse-grained. In normal case the intrusions are not detected, to improve the performance the most suitable IDS level is the coarse-grained. Any intrusion is detected by coarse-grained IDS after that the fine-grained is used to detect the possible attack details. Very fast decision tree (VFDT) algorithm is used in both of these detection levels. In order to ensure efficiency of the proposed model, it has been tested on KDD CUP 99 dataset and a real traffic dataset. Experimental results demonstrate that the proposed model is highly successful in detecting known and unknown attacks

Keywords— very Fast Decision Tress, Intrusion Detection, Knowledge Discovery Dataset, Coarse-Grained IDS, Fine-Grained IDS

I. INTRODUCTION

An intrusion detection system (IDS) inspects all network activity and identifies suspicious patterns that may indicate a network or system attack from someone attempting to break into or compromise a system. With the rapid growth in network, intrusions in computers have increased rapidly. Intrusion Detection System is an essential component of a complete defence-in-depth architecture for network security. It collects and inspects packets, looking for evidence of intrusive behaviours. Whenever intrusive event is detected, an alarm is raised giving the security analyst an opportunity to react promptly. Most of designed IDSs cannot cope with fast networks. Although several IDS systems are available, the common objectives of these systems are to reduce the amount of false alarms, and to recognize new attacks in order to increase detection ratio. In this paper, the concentration is on detecting attacks in fast networks in order to mitigate the influence of the attack by reducing the time gap between the real attack and its detection. This paper contributes to build two grains levels IDS in order to detect abnormal behaviour of network traffic and cope with fast networks i.e. fine-grained and coarse-grained. It is well known that the intrusion occurrence in networks with respect to general traffic is rare. These motivate us to build the proposed two grains levels IDS they are fine-grained and coarse-grained. In normal case, where intrusions are not detected, the most suitable IDS level is the coarse-grained to increase performance. At the moment of intrusion is detected by coarse-grained IDS, the fine-grained IDS is used to detect as most as possible of attack details. The coarse-grained Intrusion Detection System focuses on five packet features while fine-grained Intrusion Detection System works on 20 features. Very Fast Decision Tree (VFDT) algorithm is selected as a fast classifier. The advantages of this system is processing and analysing of high-speed network traffic, discovering and accurately identifying new attacks to reduce the false alarms to an maximum extent, and detecting the intrusion in real time.

DARPA KDD CUP 99 dataset is used as a bench-mark for the proposed IDS, which contains 41 features. we analysed these features and selected 20 features having information gain ratio over the average of the dataset. Then, we trained and tested the proposed system.

II. RELATED WORK

1. Intrusion detection and attack classified on three techniques

In recent times, different soft-computing methods have been proposed for the development of intrusion detection systems. The main purpose of this work is to develop, implement and evaluate an anomaly off-line based intrusion detection system(IDS) using three techniques; data mining association rules, decision trees(ID3 algorithm), and artificial neural network, then comparing among them to decide which technique is better in performing for intrusion detection system. Many methods have been proposed to modify these techniques to improve the classification process. For association rules, the major vote classifier was modified to build a new classifier that can recognize anomalies. By decision trees, ID3 algorithm was modified to deal not only with discreet data, but also to deal with numerical data. For neural networks, a back-propagation algorithm has been used as the learning algorithm with different number of inputs (118, 51, and 41) to initiate the important knowledge about the intruder to the neural networks. Different methods of normalization were applied on the input patterns to speed up the learning process. The full 10% KDD 99 train dataset and the full correct test dataset are used in this work. The proposed techniques results show that there is an improvement in the performance comparing to the standard techniques, further the Percentage of Successful Prediction (PSP) and Cost

A Review on Cloud Security Challenges and Issues

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Abstract

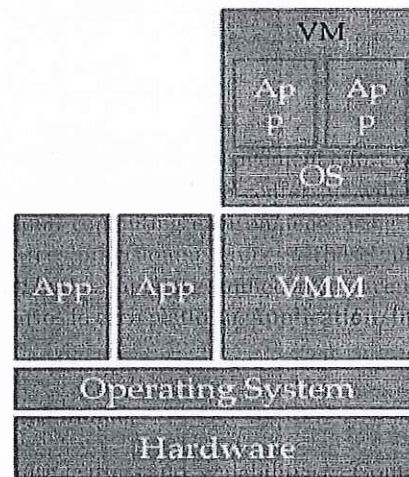
Background/Objectives: Cloud computing offers various services with minimum management effort while provisioning resources via internet. Cloud clients are allowed to store their personal data at data centers, it will minimize storage maintenance in local systems. **Methods/Statistical Analysis:** Cloud computing environment facing huge issues with hardware and software vulnerabilities in maintenance and resources provisioning process. These vulnerabilities pose huge loss of data, confidentiality, privacy and availability. **Findings:** In this paper, we studied and concentrated on various attacks in Virtualization environment and the possible attack scenarios in each platform. **Application/Improvements:** In the final section, we studied and described all types of attacks.

Keywords: Confidentiality, Integrity, Privacy, Provisioning, Virtualization.

1. Introduction

Cloud computing has been defined by National Institute of Standards and Technology (NIST) as “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or cloud provider interaction”. Cloud computing integrates various technologies to provide effective and efficient services to the cloud clients¹. The NIST cloud computing definition is most widely accepted. The NIST cloud computing model provides the three parts of cloud services such as (i) Essential characteristics (ii) Service models (iii) Deployment models. In this paper we concentrated on cloud virtual environment and its vulnerabilities. Virtualization is a promising technology which enable us to virtualize various resources in cloud environment. Virtualization provides an isolation environment, resource on-demand sharing among

multiple users and scalability i.e., Content Security Policy (CSP) can increase or decrease Virtual Machine (VM's) in dynamic environment³.



a) Para Virtualization

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A Review on Cloud Security Challenges and Issues

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ABSTRACT----- Cloud computing offers various services with minimum management effort while provisioning resources via internet. Cloud clients are allowed to store their personal data at data centers; it will minimize storage maintenance in local systems. Cloud computing environment facing huge issues with hardware and software vulnerabilities in maintenance and resources provisioning process. These vulnerabilities pose huge loss of data confidentiality, privacy and availability. In this paper, we studied and concentrated on various attacks in Virtualization environment and the possible attack scenarios in each platform studied and described.

Keywords: Confidentiality, Privacy, Virtualization, Provisioning.

1.INTRODUCTION

Cloud computing has been defined by NIST as “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or cloud provider interaction”. Cloud computing integrates various technologies to provide effective and efficient services to the cloud clients [1]. The NIST cloud computing definition is most widely accepted. The NIST cloud computing model provides the three parts of cloud services such as (i) Essential characteristics (ii) Service models (iii) Deployment models. In this paper we concentrated on cloud virtual environment and its vulnerabilities. Virtualization is a promising technology which enable us to virtualize various resources in cloud environment. Virtualization provides an isolation environment, resource on-demand sharing among multiple users and scalability i.e., CSP can increase or decrease VM's in dynamic environment [3].

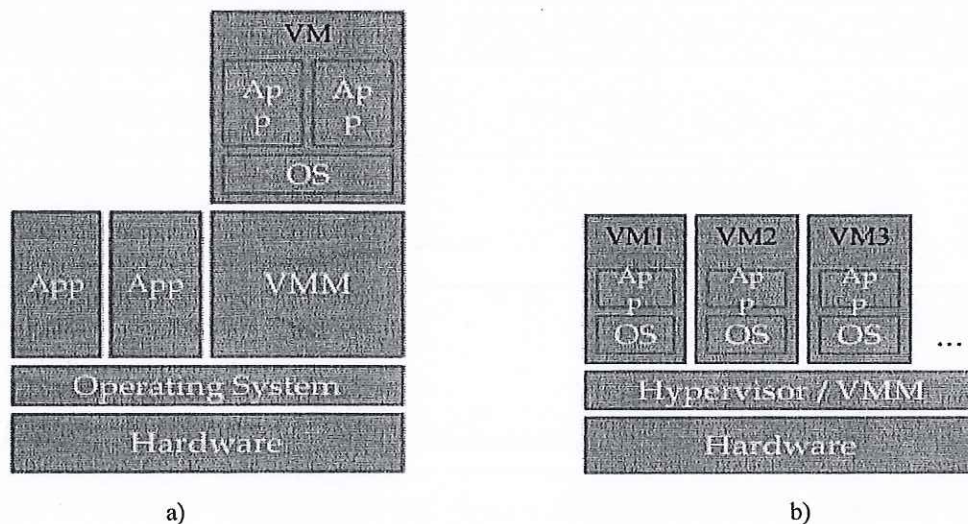


Fig 1: Virtualization a) Para Virtualization b) Full Virtualization

Anomaly based Real Time Prevention of under Rated App-DDOS Attacks on Web: An Experiential Metrics based Machine Learning Approach

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Abstract

To devise an Anomaly based Real Time Prevention (ARTP) of under rated App-DDOS attacks on Web for achieving fast and early detection. **Method:** We proposed a model based on machine learning approach that used to achieve the fast and early detection of the App-DDOS by multitude request flood. The proposed model ARTP is focused on defining set of metrics called "Re-quest chain length, request chain context, ratio of packet types, ratio of packet count, route context, router chain context and ratio of request intervals. The key factor of the proposal is unlike many of the bench marking models, which are considering requests or sessions as input to discover the anomalies, it considers set of requests are sessions in a time frame discovered to identify the anomalies of the metrics proposed. The experiments were carried out on bench marking LLDOS dataset and the performance analysis was done by the statistical analysis of the metrics like precision, recall, sensitivity and specificity. The process over-head also assessed in order to estimate the scalability and robustness of the proposal. **Findings:** The proposed model is highly significant in App-DDOS attack detection to adopt by current scenario of web applications with crowded requests that is phenomenally magnified to petabytes that compared to the past web request load in gigabytes.

Keywords: APP-DDoS, ARTP, Distributed Denial of Service, DDoS Attacks, HTTP Flooding, Intrusion Detection.

1. Introduction

Cyber malfunctioning activities from compromised users is a burning and serious act towards downgrading the computer communication, in particular of computer networks. One of such serious activity is Distributed Denial of Service that attacks web based networks, such that the potential web users unable to get the services from DDOS compromised web applications. The strategy of DDOS attack is that the host server of the web application is intentionally occupied by multiple sessions of multiple cooperative sources, such that no other user able to gain the access to that host server. In order to this, the attacker sends request packet flood of various types like SYN flood, UDP flood. The detection of such floods is very sensitive

since the differentiation between user load and flood. This due to often user load resembles like flood, which essentially should not deny by the server. The recent familiar DDOS attack victims are explored in^{1,2} and successful attack mitigating strategies explored in³.

Among the existing attacks types, the most simple and effective way of App-DDoS attacks is utilizing the HTTP Flood to launch attack by requesting home page of the victim website repeatedly. In this paper our detecting schemes consider the App-DDoS attacks as anomaly browsing behavior.

In recent years, HTTP flood is one of DDOS attack observed. The HTTP flood is formed due to the abused HTTP requests, which generates request packet flood to occupy the target server resources^{4,5}. The payloads observed at this flood such that the target servers unable to

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Chandhassu Recognizer for Telugu Poems

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Abstract : Now a days Natural language processing is one of the most emerging technology in computer science. Challenging topics in this field is processing the Indian languages. The main objective here is to reduce human effort to learn other languages like artificial languages to operate a machines and make a system to understand natural languages. Chandhassu is a basic information to know whether a given poem is syntactically correct or not. Proposed system is help full to check whether a given poem is syntactically correct or not. This system can be developed based on predefined rules for each type of Chandhassu. In Sanskrit Chandhassu types are called vruthas, some vruthas are adapted to write telugu poetry, Vruthas based on number of letters. In Telugu Chandhassu types are called jaathulu and upajaathulu. These are dependent on number of ganalu. And also it checks whether poem follows yathi and prasa properties. Poetry can be useful to represent large amount of information in a small and structured format such a way that it can be easy to remember.

Keywords: Chandhassu, Laguvu, Guruvu, Ganalu, Yathi, Prasa, Labels of Ganalu, Vruthalu, Jathulu, Upajathulu, tokenization, Poems, Unicode, Rule based approach.

INTRODUCTION:

The main objective of this paper is to recognize type of Chandhassu, yathi and prasa letters used in a Telugu poems based on Unicode representation. To accomplish this tasks we need to make a system such that it need to recognize different types of letters present

in Telugu language, system need to understand different properties of Chandhassu types. To achieve this her we are using rule based approach it is one of the NLP technique in syntax analysis. Here rules are defined by linguistic experts.

Natural language processing (NLP) is a subfield of artificial intelligence and linguistics. It studies the problems of automated understanding and generation of natural human languages. Natural language understanding systems convert samples of human language into more formal representations that are easier for computer programs to manipulate and natural language generation systems convert information from computer databases into normal-sounding human language. Language processing applications will use knowledge about language. In theory, natural-language processing is a very attractive method of human-computer interaction. Modern NLP algorithms are grounded in machine learning, especially in rule based and statistical machine learning.

CHANDHASSU:

Chandhassu is a basic information to know whether a given poem is syntactically correct or not. Science of Chandhassu tells about characteristics of poems. It will came from a word called as chadhisamvarani. Characteristics of poems is called chandhassu do to arranging an information in limited

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12/9/2015

Gmail - [SIRS-2015] Invitation to serve as reviewer



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padma choda <padmaja202@gmail.com>

[SIRS-2015] Invitation to serve as reviewer

sirs2015@iiitmk.ac.in <sirs2015@iiitmk.ac.in>
To: Nimmagadda Padmaja <padmaja202@gmail.com>

Tue, Sep 15, 2015 at 6:02 PM

Dear Dr. Nimmagadda Padmaja:

You are invited to serve as a designated reviewer on the technical program committee for the Second International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'15) (SIRS-2015) - <http://www.iiitmk.ac.in/sirs/index.html>

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Regards,

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padma choda <padmaja202@gmail.com>

[CoCoNet'15] Invitation to serve as reviewer

coconet2015@iiitmk.ac.in <coconet2015@iiitmk.ac.in>
To: Nimmagadda Padmaja <padmaja202@gmail.com>

Tue, Sep 15, 2015 at 6:00 PM

Dear Dr. Nimmagadda Padmaja:

You are invited to serve as a designated reviewer on the technical program committee for the 2015 International Conference on Computing and Network Communications (CoCoNet'15) (CoCoNet'15)-
<http://www.iiitmk.ac.in/coconet2015/index.html> .

The objective of CoCoNet'15 is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Computing and Network Communications. Submitted papers will be reviewed by technical committee of the Conference. We are planning to publish the accepted papers in ACM DL.

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Kind regards

Chairs - CoCoNet'15

High Payload and Secured Video Steganography Using Compression and AES Crypting System

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Abstract

In recent years, extensive efforts have been placed in the field of data hiding due to far reaching utilization of hacking technology by the intruders to steal the valuable information through internet. Many data hiding methods includes cryptography, watermarking and steganography has been proposed. Cryptography and watermarking conceals the secret information inside the host media where as steganography has its significance in the data hiding since it conceals the very existence of secret information inside the host media (text, image, audio and video). In this paper a novel approach of video steganography is proposed that improves the payload capacity without compromising the quality of the Stego file and the security of the hidden information. An uncompressed video sequence is considered as cover data and set of images and text is used as secret information. In the proposed method a lossless compression is used for text and lossy compression is used for image to reduce the data size before crypting the secret data. The cipher text so obtained is embedded into selected frames of the video sequence using optimal LSB polynomial expression. Further, the amount of payload embeds into cover video, Performance of the proposed method and the quality of Stego video is tested using objective quality metrics for image and text data at multiple payload capacities.

Keywords: optimal LSB, Lossy and Lossless compression, AES, Video quality metrics and video steganography.

Introduction

Steganography is an art of embedding secret information inside the host media such as text, image, audio, and video. In front of Steganography algorithms, there are many

Design of Quad Band K-slotted 2x1 Array UWB Antenna for Enhanced Bandwidth in Wireless Communications

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ABSTRACT

Antennas are one of the important parts of modern communication systems. Among all antennas, microstrip patch antenna is widely used due to its small size and low cost. In order to operate microstrip patch antenna in multiple selected frequencies, slotting has to be made on the patch with different positions and shapes. Ultrawide band is allocated by FCCI for short range communications like Wi-Fi and WIMAX. The range of Ultra Wideband (UWB) is 3.1 GHz to 10.6 GHz. There are several unlicensed bands in ultra wide band range. The main goal of this paper is to design an antenna which can operate at all license free bands in ultra wide band and provide more bandwidth to Wi-Fi and WIMAX users. In this paper K-shaped slot is made on the patch. Hence the antenna is operated at four license free bands like 3.4-3.6GHz, 3.65-6.7GHz, 5.15-5.35GHz, and 5.725-6.825 GHz which are allotted for Wi-Fi and WIMAX applications. Now-a-days, the antennas used for Wi-Fi, WIMAX applications can be operated at single frequency. To be operated at multiple frequencies, multiple antennas are required. Instead of using multiple antennas, by making a slot on patch, single antenna can be used to operate at more than one frequency, thereby, enhanced bandwidth can be provided to Wi-Fi and WIMAX users. For better gain, 2x2 Array K-shaped slotted antennas are used. The simulation is performed using IE3D software.

KEYWORDS: Ultra wide Band, K-Slot, Enhanced Bandwidth, IE3D

INTRODUCTION

Wireless communication had changed our lives during past couple of decades. In our homes and work environments, the versatile compact gadgets issue us more flexibility such that we can communicate with any one whenever and wherever. Today we have various utilization of wireless communication systems in every territory, for example: Personal Communications Services, Wireless Personal Area Networks, Wireless Local Area Networks which gives solid wireless connections between PCs, versatile gadgets and consumer hardware inside a tactical, The Personal Communications Services spreads everything from cellular telephones that join computerized cams and web browsing to Wireless Local Area Networks, this technology issues us access to the reconciliation to system which connects users without cabling.

These short distance wireless applications require more bandwidth with low power utilization capability. Ultra wide band technology is one of the best technologies, suitable for short range wireless personal area network applications due to its high data throughput ability and lower power requirements. According to the regulations released by Federal Communications Commission (FCC), the UWB systems for indoor communication have been allocated the frequency band in the range of 3.1-10.6 GHz for the prosperity of high

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STATISTICAL MODELS FOR POS TAGGING IN TELUGU

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Abstract: Part-of-Speech (POS) Tagging is a process that attaches each word in a sentence with a suitable tag from a given tagset. Parts of speech tagging is the sequence labeling problem. Labeling a POS tag to each word of an un-annotated corpus by hand is very time consuming which results in finding a method to automate the job. POS Tagging is important in various areas of NLP (Natural Language Processing). For automating the process different methods have been developed and employed for English and other Western languages. Most of these methods utilize the stochastic approaches for POS Tagging. These methods have also been done in the same area for some Asian languages. We did our Experiments with some of the widely used statistical approaches on the Telugu language. We used different corpora of different sizes. We noted the performance of the different approaches and found the Hidden Markov Model based tagger's performance to be superior to the other approaches in all of our experiments.

Keywords: Statistical models, HMM, Maximum Entropy, Brill, SVM Tool.

1. INTRODUCTION

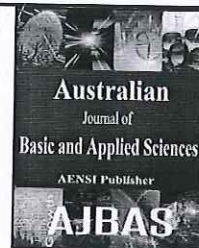
Part-of-Speech (POS) Tagging means assigning appropriate grammatical classes (i.e. appropriate Part-of-Speech tags) to each word in a natural language sentence. It has its importance in various areas of Natural Language Processing (NLP)[1] such as Text-to-Speech[8], information retrieval, parsing, information extraction and linguistic research for corpora. It can also be used as an intermediate step for higher-level NLP tasks such as semantic analysis, translation and many others. Assigning a POS tag to each word of an unannotated text by hand is very time consuming. And that is why POS Tagging has become one of the well-studied problems in the field of NLP. Several different approaches have already been developed and employed for POS Tagging for English and some other western languages. On the other hand, the amount of work accomplished in the same area for Telugu language is quite inadequate. Also, most of them have been applying the stochastic methods of POS Tagging[3]. In this paper, we start by briefly classifying the different POS Tagging approaches. Then we continue by giving a concise overview of the work already done in NLP for English and some other south Asian Languages. We move on by describing the different models that we use for our experiments[2][4]. Next, we discuss the corpora that we employ for training and testing the tagging models. We also describe the tagset that we use. Then we show how the models perform using the corpora and tagset that we utilize. After that, we analyze the results we find and compare the performance of the tagging models based on different approaches. We conclude with the result that Hidden Markov based Trigrams'n'Tags tagger [5] is suitable for tagging Telugu, using varying corpora sizes upto 20000 annotated tokens. We also propose some future studies that we plan to accomplish.



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Analysis of sEMG to remove ECG using wavelets

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ABSTRACT

Removing artifacts from biomedical signals, such as surface electromyography (sEMG), has become a major research topic in biomedical signal processing. In electromyography signals, a source of contamination is the electrophysiological signal of the heart (ECG signals). The electrocardiogram artifact is a major contamination in the electromyogram signals when electromyogram signal is recorded from upper trunk muscles and because of that the contaminated electromyogram is not useful. This contamination influences features extracted from the surface EMG, especially during low-activity measurements of the muscles such as during mental stress. As the heart is a muscle, the frequency content of the heart signals overlaps the frequency content of the muscle signals, so basic frequency filtering is not possible. We use wavelet analysis for reducing the amount of electrocardiography contamination in surface electromyography and we will investigate on abnormality conditions.

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INTRODUCTION

Surface electromyography (EMG) is a noninvasive technique for recording the electrical activity associated with skeletal muscles. Surface electromyography (EMG) has been commonly used to assess the neuromuscular demand on muscles while performing various tasks and is being rapidly introduced to the field of health care. Electromyography (EMG) is the measuring of the electrical activity associated with the contraction of skeletal muscles in the body. SEMG is the non-invasive measurement of EMG from the surface of the skin. Currently, sEMG is used in ergonomic studies, exercise physiology, movement and gait analysis, rehabilitation, biofeedback, powered control of prostheses, and clinical neuromuscular assessment. Acquired sEMG signals are susceptible to various forms of contamination which can invalidate conclusions drawn from the data. Power line Interference, motion artifact, or ECG interference are the main artifacts in the EMG. There are many methods for denoising, but discrete wavelet and wavelet denoised techniques are the improved methods for the above problems. The electrocardiogram signal which represents the electrical activity of the heart provides interference in the recording of the electromyogram signal, when the electromyogram signal is recorded from muscles

close to the heart. Therefore, due to impurities, electromyogram signals recorded from this area cannot be used.

The amplitude of the EMG signal is within a range from the μV to low mV (0-6 mV peak-to-peak or 0-1.5 mV RMS). The energetic distribution of EMG signal is basically within the 0 to 500 Hz range in frequency domain, with the dominant components in the 50-150 Hz range. Outside the 0-500 Hz frequency range, signals with energy less than electrical noise level are unusable. The frequency content range of the ECG signal is between 0.1Hz and 100Hz and highest frequency power is between 0.1 Hz and 45 Hz. Also, the ECG signal amplitude is in a range of mill volt and in some cases, is several times larger than the EMG signal amplitude. EMG is used to diagnose some diseases such as low back pain, control of neural prostheses and feature extraction of hand motion and especially for our goal, hand motion prediction and after that hand motion control.

II. Methodology:

A. Data:

To test the proposed method a simulation was performed. Pure EMG data were simulated with an impulse train of changing random amplitude (Fig 2). ECG noise (Fig 3) was separately built and added to EMG after filtering. This filtering was a

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June 24th, 2015

To

Dr. N. Padmaja,
Professor,
Department of ECE,
Sree Vidyanikethan Engineering College,
Sree Sainath Nagar, A.Ranagmpet,
Tirupati (AP),
India.

Sub: Selection as a member of the Editorial Board of i-manager's Journal on Electronics
Engineering

Dear Dr. N. Padmaja,

We take pride in announcing that you have been selected as a member of the Editorial Board of i-manager's Journal on Electronics Engineering (JELE). Your term of office will be from June 2015- May 2016 for a period of one year, and the term would be renewed in due course.

We wish you Good luck in this association and expect your valuable expertise to support us in this endeavor.

Best Regards,

A handwritten signature in black ink, appearing to read 'Joe Winston'.

Joe Winston
Editor-in-Chief
i-manager Publications

RESEARCH PAPERS

FEATURE RELEVANCE ANALYSIS IN ON-LINE MARKETING TO IMPROVE PRODUCTIVITY

By

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ABSTRACT

Opinion mining applications play a major role in identifying user perspectives. To extract useful information from huge volume of web resources, discussion forums, review sites and blogs is becoming a challenge. Majority of opinion mining approaches for feature extraction is based on static keywords appeared in single product review document which may omit even relevant reviews. An automated opinion mining mechanism to produce summary of opinions based on set of product reviews and multiple product features is needed. In this paper a technique for product feature relevance analysis using text mining concepts is proposed. The experiment results on Amazon mobile and office products review data shows the improvement in accuracy and efficiency of proposed system over existing techniques.

Keywords: Text mining, Opinion mining, Web Mining, Sentimental Analysis, Feature List, Summarization of Reviews.

INTRODUCTION

Web mining refers to the implementation of text mining techniques for the extraction of useful knowledge from Web text like customer behaviours, public opinions about political issues, social network analyses, Online Shopping Websites and similar other areas related to opinions based on user reviews.

Opinion mining is the task of retrieving the people's individual or a group of people's appraisal or the notation of behaviour on the corresponding context. The way of providing the opinions can be formal or informal even. The complicated area of study is of analyzing the opinions and getting the useful information about the opinion given by the users or the individual scenario. Opinions may be provided either objectively or subjectively. In objective opinion is given in a fixed format where as subjective opinions are the appraisals which are given according to the subject or phrase or even sometimes called features. Simply, we can state that opinion mining is a part of web mining which in proportional belongs to the text mining where Data mining Techniques is applied for the knowledge database (KDD). There are two kinds of opinion sentences: Structured Sentences and Unstructured Sentences.

Sentences with defined format of vocabulary rules are

called as Structured Sentences.

Ex: Camera is Good for Photographers.

Noun Adjective Adverb

Sentences without a defined format of vocabulary rules are called as Unstructured Sentences.

Ex: I like camera very much because it is good for photographers and users.

In general, according to model of opinion mining opinions can be expressed on anything, e.g., a product, a service, a topic, an individual, an Organization, or an event. Each component may also have its sub-components and its set of attributes.

Ex1: "The design of the Jewellery is Attractive."

In Ex1 design is object and opinion feature is Attractive and customer is opinion holder

Opinion Retrieval:

Opinion retrieval is the task of retrieving documents according to topic and ranking them according to opinions. Opinion Retrieval can be done in Different levels of the input parameter received. They can be at Document level, Sentence level and Feature level.

Document Level Opinion Mining identifies the overall subjectivity or sentiment expressed on an object in a

Comparative Studies of PCM based TES System Using Different PCMs

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Keywords: Phase Change Material (PCM), Latent heat, Heat Transfer Fluid (HTF), Paraffin, Stearic acid, Thermal Energy Storage (TES)

Abstract: The purpose of thermal energy storage systems (TES) is to store the heat energy supplied to it for a considerable time period and give the energy back when ever need arise. On many of occasions, part of the heat energy of various systems is unutilized. If this excess heat energy be stored in such systems as TESS, utilization of energy improves. If the use of such systems is widespread, fuel is conserved and national economy is saved.

Different materials can be used in TESS to store heat energy and in the present work two such materials, which are popular phase change materials (PCM) namely (a) Paraffin (b) Stearic acid are used and subsequently the performance of the TESS is studied. The PCMs are used in the form of spherical capsules made up of high density poly ethylene (HDPE) of diameter 58 mm. Charging time and amount of heat energy recovered are studied for the two PCMs mentioned above and compared. Though paraffin as PCM gives little better heat energy recovery, performance of both the materials are almost the same. Hence as the cost of stearic acid is less when compared to paraffin on economical grounds and on ease of availability basis stearic acid has advantages over paraffin.

1. Introduction

Throughout the world theoretical and experimental investigations, using both latent and sensible heat storage systems are going on, to develop the cost effective Thermal Energy Storage (TES) system.

In this regard Ismaïl and J. R. Henriquez [1] tested the performance of spherical capsules as PCM containers. On the other hand, Barba and spiga [2] studied the performance of thermal energy storage system in containers of different shapes using salt hydrates as PCM. The spherical capsules proved to yield larger energy density and better charging and discharging performance. And the investigation of Zhengguo Zhang and Xiaoming Fang [3] showed that the absorbent graphite is a better thermal conductor than the paraffin alone, so the heat transfer coefficient is improved. Results of Hisham Ensaney et. al. [4] showed that the heat transfer rate is increased because of placing metal beads along with the paraffin in the capsules while checking the thermal energy storage system. The performance of charging and discharging for different flow rates of HTF was investigated by Nallusamy et. al. [5] during the study of TES system integrated with solar water heating. Heat transfer in triplex concentric tube with phase change material for thermal energy storage system was identified by Long Jian-yun [6] by the numerical and experimental tests. A numerical model for analyzing the behavior of packed bed with spherical capsules filled with paraffin was as PCM was developed by Regin A. Felix et. al. [7].

This effort is to attain the better PCM among the paraffin and stearic acid for storing and retrieving the heat energy and at the same time, the efficiency of sensible and latent heat thermal energy storage unit included with constant heat source. In this system 58 mm diameter of high density poly ethylene (HDPE) spherical capsules filled with PCM are placed and surrounded by SHS material in the TES tank. The water used as HTF acts as SHS. Experiments are carried out to examine the effects of PCM and HTF flow rates at different inlet fluid temperatures and heat recovery characteristics of TES system.

Experimental Investigation of Performance of Parabolic Solar Cooker with Different Reflectors

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Abstract

Solar energy is a renewable source of energy. The main aim of this paper is performance evaluation of parabolic solar cooker with different reflectors. Given the prevalent energy crises across the globe, it is always desired to exploit new and renewable energy sources which are readily available at almost negligible cost. Solar cookers have come in various forms: parabolic cookers, panel cookers, box cookers, and funnel cookers, each with its own design and performance peculiarities. For efficient utilization of solar energy, focusing type parabolic solar cooker was designed and fabricated, having a focal length of 43 cm. The performance evaluation gave a maximum temperature of 123°C at an ambient temperature of 30°C. A black pot which absorbs heat more readily than other materials was used for the performance test. By using different reflector (aluminium sheet, Aluminium foil & glass), performance of the solar cooker was found and glass reflector was found efficient for cooking a food item compare to other two reflectors.

Keywords—Parabolic solar cooker, reflectors, temperature and time.

INTRODUCTION

A solar collector is a special kind of heat exchanger that transforms solar radiant energy into heat. A solar collector differs in several respects from the more conventional heat exchanger. The conventional heat exchangers usually accomplish a fluid-to-fluid heat exchange with high heat transfer rates and with radiation as an unimportant factor. In the solar collector energy transfer is from a distant source of radiant energy to a fluid either with concentration (concentrating collectors) or without concentration (flat plate collector). The wave length range is from 0.29 to 2.5µm, which is considerably shorter than that of the emitted radiation from most energy absorbing surfaces. Thus, the analysis of solar collector presents

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Process parameters optimization on machining force and delamination factor in milling of GFRP composites using grey relational analysis

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In this study, the optimization of process parameters for milling of glass fiber reinforced polymer (GFRP) composites using grey relational analysis has been investigated. Experiments are conducted using helix angle, spindle speed, feed rate, depth of cut and fiber orientation angle as typical process parameters. The grey relational analysis (GRA) is adopted to obtain grey relational grade for milling process with multiple characteristics namely machining force and delamination factor. Analysis of variance (ANOVA) is performed to get the contribution of each parameter on the performance characteristics and it is observed that fiber orientation angle and feed rate are the most significant process parameters that affect the milling of GFRP composites. The experimental results reveal that, the helix angle of 25°, spindle speed of 3000 rpm, feed rate of 500 mm/min, depth of cut of 1 mm and fiber orientation angle of 15° is the optimum combination for lower machining force and lower delamination factor. The experimental results for the optimal setting show that there is considerable improvement in the process.

Keywords: GFRP, End milling, GRA, Machining force, Delamination factor

GFRP composites play a crucial role in aerospace industry as they minimize the aircraft weight and consequently the costs incurred upon, and also be used in automotive and sea vehicles industry. It is an advanced polymeric matrix composite material and it is considered to be a feasible alternative to engineering materials. They have superior properties like corrosion resistance, high specific strength, high stiffness, low thermal expansion coefficient, superior rigidity, high damping, high fracture toughness, and resistance to chemical and microbiological attacks^{1,2}. GFRP's are difficult to machine due to splintering and delamination of fiber, and these components are largely made near net shape to achieving contour shape accuracy³. Milling composite materials are significantly affected by the tendency of these materials to delaminate under the action of machining forces, i.e., cutting force, feed force and depth force^{4,5}.

The machining force and delamination factor have been identified as quality attributes and are assumed to be directly related to performance of machining process, productivity and production costs. Machining force play a key role in analyzing the machining process of FRPs. The value of machining force in the work-piece is determined using the equation

$$F_m = \sqrt{F_c^2 + F_f^2 + F_d^2}$$
 Generally, machining force

increases with increase in feed rate and decreases with increase in cutting velocity⁶. Evaluation of machining parameters of hand layup GFRP related to machining force was carried out by Davim *et al.*⁷ on milling using cemented carbide (K10) end mill. Mohan *et al.*⁸ analyzed the influence of machining parameters on cutting force during drilling of GFRP with the help of a commercially available software package MINITAB¹⁴. Machining of GFRP composites is a critical operation because of occurrence of fiber delamination, fiber/resin pull out, surface roughness of machined surface and walls, matrix burning, chipping, spalling, etc. Among all these defects, delamination is most critical damage as strength of the polymer matrix composite product fabricated gets impaired^{9,10}. It is important to choose the best machining parameters for achieving optimum performance characteristics for any machining process. The desired machining parameters are usually selected with the help of referred handbooks, past experience and various trials. However, the selected machining parameters may not be optimal or near optimal machining parameters. Taguchi's parameter design is one of the important tools for robust design, which offers a systematic approach for

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HQLS-PY: A New Framework to Achieve High Quality in Large Scale Software Product Development Using POKA-YOKE Principles

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Abstract—We propose a new model for large scale Software development for Products and Services with high quality expectations. It would be based on investing upfront in the Software Architecture of the system, designing with the software product monitoring and alerting logic in place, end-to-end user experience, experimentation and quality of service based on Poka-Yoke principles. The basic idea behind developing this new model is to have high quality software products and services that can be developed faster, cheaper and in better way, it can scale with demand in various scenarios, can deliver outstanding user experience and be failing safe for SDLC bottlenecks which arise in both conventional and Agile Software Development. The proposed model has the following areas:

- Get the right Software Architecture in place
- Ensure high quality software is developed
- It is based on POKA-YOKE principles
- Focus is on user experience
- Ensuring need of the software is identified
- Architecture design follows 12 factor principles

Index Terms—Usability, Poka-Yoke, Product, Framework, Software Architecture, Quality, Product Monitor, Services

I. INTRODUCTION

The software architecture of a program or computing system is the structure or structures of the system, which comprise software elements, the externally visible properties of those elements, and the relationships among them [1]. Non-Functional Requirement (NFR) approach, Quality Attribute Model approach and Intuitive Design approach. For each approach having its own bottlenecks such as decisions are not precisely determined, less modularization, no predictive model, no amenable architecture, no scale up architecture and no organizing requirements etc., shown in figure 1 [16,17]. Software must possess the qualities like Safety, Reliability, Availability, Cost, Maintainability, Performance or Response, Time, Energy consumption [5]. Usability is important not only to increase the speed and accuracy of the range of tasks carried out by a range of users of a system, but also to ensure the safety of the user. Productivity is also imperative where the software is used to control dangerous processes. Computer magazine software reviews now include usability as a ratings category [6]. To achieve non-functional requirements for any modeling software architecture still remain a difficult task as many stakeholders involved in the selection process as shown in figure 2. There are some recent attempts to establish software science as a foundation of software engineering. This may promote more analytical reasoning about software architecture, if it becomes popular. Software architectural design would benefit from analytical reasoning with scientific foundations. Importance of software architecture in the software design process is generally accepted among practitioners [7]. Below are some ideas and SE paradigms identified for better improving the Software Development Life cycle and identify the optimize some areas in SDLC so that Time To Market can be made faster and efficient, without compromising the code quality and functionality.

A. Frameworks

The key concept in using frameworks is design reuse. In contrast to past approaches that applied the term reuse to individual software functions (such as sine), the objective of frameworks is to reuse complete domain-specific units - for instance, customer records, accounts, or security accounts. In other words, we try to preserve our existing development work, such as task analysis and domain class design, by creating a skeleton frame representing, for example, the implementation of an account and its interface components.

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CSE-24

A Survey on Design Pattern Formalisms

A.V.Sriharsha, Dr. A.Rama Mohan Reddy

Abstract— In order to construct large and complex software systems which provide the necessary infrastructure in a systematic manner, the focus in the development methodologies has switched in the last two decades from functional issues to structural issues. The encapsulation principle is essential to both the object-oriented and the more recent component based software engineering paradigms. Formal methods have been applied successfully to the verification of medium sized programs in protocol and hardware design. In this paper a brief review about software systems and essential survey of formal methods has been presented.

Index Terms— Design Patterns, Formal Specification, Formalisation, Formalism, Patterns Languages, Software Architecture, Software Process.

1 INTRODUCTION

As software systems become more complex, the overall system structure—or software architecture—becomes a central design problem. A system's architecture provides a model of the system that suppresses implementation detail, allowing the architect to concentrate on the analyses and decisions that are most crucial to structuring the system to satisfy its requirements.

One of the most challenging tasks in software development is to assure reliability of systems being designed and constructed. This becomes even more important as the use of software increases dramatically in embedded systems within life-critical environments such as medicine, air traffic control and other transportation systems, spacecraft control, and national defense weapons deployment and activation.

Recent research is demonstrating the clear advantages of a more formal and mathematical approach to software requirements capture and design. Methods used in such an approach are collectively called formal methods for software specification, and these methods have been shown to provide added reliability by modeling requirements in a way that they can then be reasoned about in a rigorous and repeatable manner [8],[9]. In general, the term formal methods refer to the use of techniques employing formal logic and discrete mathematics in the specification, design, and implementation of software (and hardware) systems.

The formal world of software engineering is closely connected to mathematics, in particular to mathematical logic and algebra. It tries to build up a mathematical theory and a calculus to deal with programs and requirements specifications in the style of a mathematical derivation. In the formal world, any document has to obey a precisely defined syntax, and also the semantics of documents is defined with mathematical precision. This is possible if the syntax has semantics in terms of

another mathematical formalism, or if a calculus of deduction rules has been defined for the language under consideration, or both. Programming languages already provide formal specification for the logic described to solve a problem. [3]

Formal methods involve a high degree of mathematical formalism, and hence require a corresponding degree of commitment on the part of the learner to achieve a level of comfort approaching that most software developers have with traditional requirements analysis methods, with their dependence on English-like specifications.

Unfortunately, current representations of software architecture are informal and ad hoc. While architectural concepts are often embodied in infrastructure to support specific architectural styles and in the initial conceptualization of a system configuration, the lack of an explicit, independently-characterized architecture or architectural style significantly limits the benefits of software architectural design in current practice.

2 PATTERNS

2.1 The Fundamental Role of Patterns

Patterns are an important part of today's software engineering practice. They are a proven way of capturing working solutions to recurring problems, including their applicability, trade-offs and consequences. So how do patterns factor into the approach described above?

Architecture Patterns and Pattern Languages describe blueprints for architectures that have been used successfully. They can serve as an inspiration for building you own system's architecture. Once you have decided on using a pattern (and have adapted it to your specific context) you can make concepts defined in the pattern first class citizens of your DSL. In other words, patterns influence the architecture, and hence the grammar of the DSL.

Design Patterns, as their name implies, are more concrete, more implementation-specific than architectural patterns. It is unlikely that they will end up being central concepts in your architecture DSL. However, when generating code from the models, your code generator will typically generate code that resembles the solution structure of a number of patterns. Note,

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Modest Formalization of Software Design Patterns

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ABSTRACT: Formalization is the document form of formalism, where the practical compositional elements are represented by the symbols and variables. The Software Requirement Specification is documented in such a way that it breaks the deliverables into smaller components. Design patterns are among the most powerful methods for building large software systems. Patterns provide well-known solutions to recurring problems that developers face. Predicate logic is used for describing the formal specification of the design patterns. In this paper we urge to explain that formal specification of design patterns is very essential before they are implemented in any platform, further the formal specification of the design pattern is derived into a formula with respect to the application of the domain. In this paper we state some of the illustration to understand the concept of the formal specification and formula and we call this Modest Formalization of Software Design Patterns.

KEYWORDS – modesty, formalization, design patterns, software architecture, calculus.

I. INTRODUCTION

In art theory, formalism is the concept that a work's artistic value is entirely determined by its form—the way it is made, its purely visual aspects, and its medium. Formalism emphasizes compositional elements such as color, line, shape and texture rather than realism, context, and content. The philosopher Nick Zangwill of Glasgow University has defined formalism in art as referring to those properties “that are determined solely by sensory or physical properties—so long as the physical properties in question are not relations to other things and other times.” The philosopher and architect Branko Mitrović has defined formalism in art and architecture as “the doctrine that states that the aesthetic qualities of works of visual art derive from the visual and spatial properties.” A formal analysis is an academic method in art history and criticism for analyzing works of art: “In order to perceive style, and understand it, art historians use ‘formal analysis’. This means they describe things very carefully. These descriptions, which may include subjective vocabulary, are always accompanied by illustrations, so that there can be no doubt about what exists objectively”.

Formalization is the document form of formalism, where the practical compositional elements are represented by the symbols and variables. However, the theoretical impact on formalization has often been obscured in empirical investigations; the concept of building the basic idea of a system remains unchanged. Formalization (as efficiency) is likely to contribute to effectiveness early even in an organization's history. Formalization is defined high level at the implementation and so each component has to be clearly defined in its role of specialization.

II. SOFTWARE ENGINEERING PERSPECTIVES

Software Requirement Specification assures the project management stakeholders and client that the development team has really understood the business requirements documentation properly. The Software Requirement Specification is documented in such a way that it breaks the deliverables into smaller components. The information is organized in such a way that the developers will not only understand the boundaries within which they need to work, but also what functionality needs to be developed and in what order. These two points are particularly important in the process of software development. If a development team does not understand that there are certain constraints on their work, as for example the code must be tightly written so that it will compile and run quickly, then problems will creep later on when the code might deliver the functionality required. Understanding what order the functionality will be developed in means that the developers have the “big picture” view of the development. This gives them an opportunity to plan ahead which saves both project time and cost. As for some of the important characteristics to be followed in SRS of a Software Development



Review Article

EMPIRICAL ANALYSIS OF DESIGN PATTERN METRICS FOR BUILDING MODEST FORMALIZED CATALOG

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Design patterns are characteristic structures of classes or objects which can be reused to achieve particular design goals in an elegant manner. As they are not available in the API on any design or development platform, it is very difficult for a developer to perceive the scope and application of the design pattern. The formal specification of the design pattern helps in understanding the pattern symbolically. In this paper we propose the quantification of the aspects of a design pattern, earlier not limited to symbolic representation of the methods, attributes, relationships between the classes. By empirically analyzing the metrics it becomes very essential to incorporate the metrics to quantify the application of the class or the object that are embedded in the design pattern, as to build the modest formalized catalog.

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INTRODUCTION

Christopher Wolfgang Alexander was the first eminent theorist to introduce patterns as a form of describing accumulated experiences in the field of architecture. He defines a pattern as a construct made of three parts: a context, a set of forces and a solution. The context reflects the conditions under which the pattern holds. The forces occur repeatedly in the context and represent the problem(s) faced. The solution is a configuration that allows the forces to resolve themselves (i.e., balances the forces). Alexandrian patterns comprise commonly encountered problems and their appropriate solutions for the making of successful towns and buildings in a western environment. Alexander called a set of correlated patterns a pattern language, because patterns form a vocabulary of concepts used in communications that take place between experts and novices. Since the mid-'90s, many software systems—including major parts of the Java and .NET libraries and many middleware platforms—have been developed with the conscious awareness of patterns. Sometimes developers applied these patterns selectively to address specific challenges and problems. Other times, they used patterns holistically to help construct software systems, from initially defining baseline architectures to finally realizing fine-grained details.

Knowledge and conscious application of patterns has become a valuable commodity for software professionals. Much has changed since Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides ("the Gang of Four" or "GoF") published Design Patterns, the most popular book on patterns. Communication software for next-generation distributed applications must be flexible and efficient. Flexibility is needed to support a growing range of multimedia datatypes, traffic patterns, and end-to-end quality of service (QoS) requirements.

Efficiency is needed to provide low latency to delay sensitive applications (such as avionics and call processing) and high performance to bandwidth-intensive applications (such as medical imaging and teleconferencing) over high speed and mobile networks. Many business information systems—such as those for accounting, payroll, inventory, and billing—are based on transactions. The rules for processing transactions are complex and must be flexible to reflect new business practices and mergers.

Business systems must also handle increasingly large volumes of transactions online. The meteoric growth of e-commerce on the Web has exposed many business-to-business systems directly to consumers. Despite these systems' importance, relatively little has been written about their robust and secure analysis, architecture, or patterns.

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Research Paper

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Bandwidth Guaranteed Hop-by-Hop Routing in Wireless Mesh Networks

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Abstract— *Wireless Mesh Network (WMN) has become an important edge network to provide Internet access to remote areas and wireless connections in a metropolitan scale. In this paper, we study the problem of identifying the maximum available bandwidth path, a fundamental issue in supporting quality-of-service in WMNs. Due to interference among links, bandwidth, a well-known bottleneck metric in wired networks, is neither concave nor additive in wireless networks. We propose a new path weight which captures the available path bandwidth information. We formally prove that our hop-by-hop routing protocol based on the new path weight satisfies the consistency and loop-freeness requirements. The consistency property guarantees that each node makes a proper packet forwarding decision, so that a data packet does not traverse over the intended path. Our extensive simulation experiments also show that our proposed path weight outperforms existing path metrics in identifying high-throughput paths.*

Keywords— *BCRP, hop-by-hop, isotonic, Intraflow, MBP, WMN.*

I. INTRODUCTION

A wireless mesh network (WMN) consists of a large number of wireless nodes. The nodes form a wireless overlay to cover the service area while a few nodes are wired to the Internet. As part of the Internet, WMN has to support diversified multimedia applications for its users. It is essential to provide efficient Quality-of-Service (QoS) support in this kind of networks. Seeking the path with the maximum available bandwidth is one of the fundamental issues for supporting QoS in the wireless mesh networks. The available path bandwidth is defined as the maximum additional rate a flow can push before saturating its path. Therefore, if the traffic rate of a new flow on a path is no greater than the available bandwidth of this path, accepting the new traffic will not violate the bandwidth guaranteed of the existing flows. This paper focuses on the problem of identifying the maximum available bandwidth path from a source to a destination, which is also called the Maximum Bandwidth Problem (MBP). MBP is a sub problem of the Bandwidth-Constrained Routing Problem (BCRP), the problem of identifying a path with at least a given amount of available bandwidth. In the literatures, maximum available bandwidth path is also called widest path.

Finding the widest path between the source and the destination in wireless networks is very challenging due to the wireless transmission interference. Generally speaking, there are two types of interference: interflow interference and intraflow interference. Interflow interference refers to the situation that the resource available for a flow is affected by the presence of other flows. In other words, the interflow interference affects the amount of residual channel resources on each link that can be allocated for a new flow. The work gives how to estimate the available bandwidth (residual channel resources) of each link. It means that if the link has to carry another 1-hop flow without violating the bandwidth guarantees of existing flows, the rate of this flow can be at most the available bandwidth of the link. On the other hand, intraflow interference refers to the scenario where when a data packet is being transmitted on a link along a path, some link along the path has to remain idle to avoid conflict. Intraflow interference complicates the process of developing hop-by-hop routing protocol for finding widest paths. Considering intraflow interference, the works present a formula to compute the available bandwidth of a path with the knowledge of the available bandwidth on individual links of the path. Unfortunately, finding widest path in a hop-by-hop manner is still not solved.

The unique structure of the path bandwidth computation formula introduces two challenges described below:

1. Some nodes may not find the widest path if only the available bandwidth is used as the routing metric.
2. Even though a source identifies a widest path to a destination, intermediate nodes on the widest path may not make a consistent packet forwarding decisions by using the traditional destination-based hop-by-hop packet forwarding mechanism.

Robust hash generation technique for content-based image authentication using histogram

Multimedia Tools and Applications

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Abstract

In this paper, a robust hash technique for image content authentication using histogram is proposed. The histogram based hash techniques reported in the literature are robust against Content Preserving Manipulations as well as incidental distortion. The major drawback of these techniques is that, they are not sensitive to Content Changing Manipulations and also un-altered histogram image modifications. To overcome these drawbacks, we present a novel hash technique which divides the image into non-overlapped blocks and distributes histogram bins of the image block into larger containers based on the *Partial Sum* of pixel count of histogram bins. An intermediate hash is produced by computing the ratio of pixel count between two neighbouring containers. The intermediate image hash is obtained by concatenating intermediate hashes of image blocks. Finally, the intermediate image hash is normalized and randomly permuted with a secret key to produce a robust and secure hash. The results shows that, the proposed method performs better when compared to the existing methods against the Content Preserving manipulations. Besides, the proposed method is more sensitive to Content Changing manipulations as well as un-altered histogram image modifications. The performance results on image authentication indicate that, the proposed method has high discriminative capability and strong robustness.

Keywords

Image authentication Histogram Secure image hash Image manipulations
Robustness and discriminate

References

1. Ammar M. Hassan et al (2009) Semi fragile image authentication using robust image hashing with localization, in proc. of second int. Conf Mach Vis 133–137
[Google Scholar](https://scholar.google.com/scholar?q=Ammar%20M.%20Hassan%20et%20al%20%282009%29%20Semi%20fragile%20image%20authentication%20using%20robust%20image%20hashing%20with%20localization%2C%20in%20proc.%20of%20second%20int.%20Conf%20Mach%20Vis%20133%2E280%293137) (<https://scholar.google.com/scholar?q=Ammar%20M.%20Hassan%20et%20al%20%282009%29%20Semi%20fragile%20image%20authentication%20using%20robust%20image%20hashing%20with%20localization%2C%20in%20proc.%20of%20second%20int.%20Conf%20Mach%20Vis%20133%2E280%293137>)

Comparative Study of Homogeneous and Heterogeneous Processor in FPGA For Functional Verification

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Abstract- Field programmable gate arrays (FPGAs) provide designers with the ability to quickly create hardware circuits. Increase in FPGA configurable logic capacity and decrease in cost have enabled designers to more readily incorporate FPGAs in their designs. FPGA vendors have begun providing configurable soft processor cores that can be synthesized onto their FPGA products. While FPGAs with soft processor cores provide designers with increased flexibility, such processors typically have degraded performance and energy consumption compared to hard-core processors. This paper involves a comparative study of homogeneous and heterogeneous processors in FPGA with respect to verification of a design and comparing their results to identify the better one among the two.

Keywords: FPGA, Soft Processor, Homogeneous Processor, Heterogeneous Processor.

Introduction

A. FPGA

The design size and complexity increases according to Moore's law and verification time also scales up to 6 months to 1 year. The use of hardware like FPGA with embedded processor has emerged in assisting simulation. This has given a new way to verification trends. The use of Logic simulators in predicting the behavior of digital circuits has a major bottleneck as the level of effort required to debug and then verify the design is proportional to the complexity of the design.

B. Verification Trend

Functional verification is the key in reducing development and production cost of an IC. Functional verification of a design is done either by FPGA prototyping or Logic Simulation. The problem with logic simulation is that the simulation time is more for a large design and very slow in running application software against the hardware design. In other hand FPGA prototyping are quick and low cost but only limited number of signals are visible to the user. This is changing with emerging FPGA Technology prototype tools that provide full visibility to 10,000s of internal signals. Few recent works have demonstrated the effectiveness of using GPU to speed up gate level simulation but failed in communication and load balancing. With advancement of FPGA architectures like ZYNQ-7000 SOC architecture,

speeding up of simulation is possible by creating a heterogeneous or homogeneous core

C. Embedded Processor

Embedding a processor inside an FPGA has much advantage like peripherals can be chosen based on application and large banks of external memory can be connected to the FPGA and accessed by the embedded processor system using included memory controllers. One of the most exciting developments in FPGA that has emerged in current years is the emergence of hard and soft FPGA-embedded processors. These processors include Xilinx MicroBlaze™, IBM PowerPC™440, Altera® Nios™ II, and others. In this paper hard core refers to a system that cannot be reconfigured and all of the components are already fixed by the manufacturer and integrated into a development board. By contrast soft core will refer to a system on a programmable chip (SOPC). In an SOPC, the processor, memories and components are created by using the available resources in a programmable logic device and it can be customized according to a particular set of specifications.

D. Advantages Of Embedded Processor

The advantages of an embedded processor are Hardware acceleration, Peripheral Customization, Component obsolescence Mitigation.

E. Scope Of The Work

This work mainly focuses on the development of Heterogeneous and Homogeneous architectures by creating Hardcore and soft cores on the XILINX Zynq-7000 FPGA and verifying the functionality and determining which one of the simulations is faster. Homogeneous architecture involves the interfacing of a soft core processor with another soft core processor, whereas Heterogeneous architecture involves interfacing an hardcore processor with an soft core processor. We use Xilinx Vivado High level synthesis tool which creates an RTL implementation from C level source code.

Related Work

For several years the greater part of the verification attempt in industry has revolved around logic simulators.

SECURE EMERGENCY RESPONSE PROTOCOL FOR WIRELESS SENSOR NETWORKS

G. Hari Prasad^{1*}, B. Sangamithra², Dr. M. Sunil Kumar³

Abstract

Wireless sensor networks are those in which nodes are distributed randomly in order to pass the information from one sensor node to another node. Emergency responses are uncommon in a communication network. Adaptation to topological changes, coping with heavy traffic, and automatically switching from normal mode to energy efficient mode are the emergency responses that are to be met. The emergency response protocol tackles all these problems but security is the major concern which is an important aspect for preventing an attacker from automatically changing the network into emergency mode so that nodes energy is reduced and also packets in the queue are duplicated with improper data. Simulations in NS-2 show the improvement in the performance in packet delivery ratio, delay and energy in normal monitoring.

Keywords

Protocols, Wireless Sensor Network, Topology, Protocols.

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1. Introduction

A WSN mainly comprises of randomly distributed sensor nodes which are employed to predict the changes in the environment and organized for passing the collected information to the destination. The nodes in WSN possess certain capabilities such as sensing, computation and communication. WSN is a small part of ad-hoc networks which provide mobility parameters for the nodes in the network. Although WSN is a division of ad-hoc networks the protocols used in WSN are not used in ad-hoc networks.

Communications can be done in different layers but mainly a protocol is designed in a medium access control layer that is meant for controlling the interfering properties of the nodes in transmissions. In WSN energy

management of nodes in MAC layer is very difficult, so while designing a protocol one should be careful that the energy of a node should not deplete. In an emergency situation, the nodes should respond immediately to stop the disasters such as fire condition, earthquakes etc.

The existing protocols are not capable of handling the large amounts of traffic, healthy adaptation to changes, packet prioritization and completeness. Currently, the medium access control that is designed for WSN is divided into contention based protocols and TDMA related protocols. TDMA protocols have an advantage of energy minimization compared to contention protocols, because the number of cycles is reduced and there is no contention. By using this nodes can share the same frequency channel through the division of signal into different time slots. When the transmission starts, the nodes use their time slot, and allow multiple stations to use same transmission medium. The advantages of WSN are complexity of wiring is avoided; changes can be easily adapted, very flexible to divide physical partitions. The major drawbacks are low speed of communication, more complex to configure than a wired network, costs are heavy. The major applications are intrusion detection, health application and traffic analysis to minimize the congestion.

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Connecting Productivity with Social Capital via Daily Mobile Phone Logs

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Abstract

Human behavior and their social interactions can be quantified and modeled with the use of smart phones and any wearable badges which senses and captures real-life interactions. In traditional social sciences, such information was gathered by conducting surveys. However in digital era, smart phones are regarded as a popular tool which automatically senses much human information to quantify our lives. Reality mining gives a clear picture of a human being and its social relations. Social Network Analysis (SNA) is a powerful research tool which provides a comprehensive analysis on ego-alter communications with their individual productivity within a community. In this paper, various popular measures of social network analysis have used to study a closed community through their mobile call logs for a period of time. We experimented various social network measures both on daily basis and also over a period of time. The pattern shows that the relationships and interaction between ego-alter ties have more productive benefits. Using Pearson-correlation analysis, we observed that significant (positive) correlation exists between various network properties and their productivity. Results showed that degree (size) has the strongest positive correlation with average productivity, followed by effective size, efficiency, constraint, hierarchy, and k-core of an individual. Density and betweenness centrality have a weak, negative correlation with productivity. Hence social capital has a significant influence on human productivity.

Keywords

Reality Mining, Social Network Analysis (SNA), Social Capital

1. Introduction

Humans are social by nature and they start their daily activities by interacting with others. Social interactions

Note for the authors: ¹Research Scholar, ²Professor, ³Principal.

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ISRO/RES/2/308/2014-15

October 30, 2014

Dear Dr. Nimmagadda Padmaja,

Subject: RESPOND Project - " MST Radar Signal Processing using Empirical Mode Decomposition and Hilbert Huang Transform"

This has reference to your submission of the above-mentioned research proposal for funding under RESPOND Programme. The domain experts in Department of Space have reviewed the proposal. I wish to inform you that, Chairman, ISRO/Secretary, DOS has approved the following.

1. Funding of the project under RESPOND Programme for a period of Two years at a total outlay of ₹14.36 Lakhs (Rupees Fourteen Lakhs and Thirtysix thousand only) towards meeting the expenditure of the project.
2. Release of grant of ₹10.63 Lakhs (Rupees Ten Lakhs and Sixtythree thousand only) towards meeting the first year expenditure of the project (budget details enclosed).

The approval is subject to fulfilment of the following conditions:

- (a) You will have to submit Annual Progress Report (APR), at the end of the first year, indicating the progress of the work accomplished during the first year. However, on conclusion of the project, you will have to send a comprehensive report covering total project activities. The copies of reports should be sent to Director, NARL, Tirupati (Attn: Dr S Sridharan, RESPOND Co-ordinator, NARL, Tirupati) and two copies to the undersigned.
- (b) You will have to submit two copies of the Fund Utilization Certificate (FUC) and Audited Accounts Statement (AAS) on completion of the first year of the project. On completion of the project, you have to send the final FUC and Audited Account Statement for the total expenditure incurred in the project. The FUC and AAS should be sent to the Pay & Accounts Officer, Department of Space, Antariksh Bhavan, New BEL Road, Bangalore 560231; Director, NARL, Tirupati (Attn: Dr S Sridharan, RESPOND Co-ordinator, NARL, Tirupati) with a copy to the undersigned.

भारतीय अन्तरिक्ष अनुसंधान संगठन / Indian Space Research Organisation

On fulfillment of the above mentioned conditions, the Department of Space will issue a separate sanction order for the approved grant followed by release of funds to The Principal, Sree Vidyankethan Engineering College, Tirupati.

You are requested to send the enclosed Grant-in-Aid bill and Electronic Transfer Mandate Form duly filled and signed in original to the Pay and Accounts Officer, Department of Space, Antariksh Bhavan, New BEL Road, Bangalore 560 231 with a copy to the undersigned for releasing the grants at the earliest.

With Best Regards,

Yours sincerely,

(K Ganesha Raj)

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padma choda <padmaja202@gmail.com>

Updates on MedCom 2014 for TPC/Advisory Committee Members

Amit Sehgal <amitsehgal26@gmail.com>
Bcc: padmaja202@gmail.com

Fri, Jun 27, 2014 at 12:51 PM

Dear Professor,

Greetings from G. L. Bajaj!

With your support and guidance, MedCom-2014 is getting exhilarating response from all across the world. Just to share the information, we have Apollo ATNF as our Knowledge Partner and IEEE EMB Bangalore chapter as Technical Sponsor in addition to IEEE UP Section and ICEIT.

The extended versions of selected papers will be invited for publication in an International Journal of IGI-Global (no-publication fee).

TPC members are requested to convey the conference tracks from the below given list so as to update the easychair link for review of papers. You may mention more than one tracks.

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Yo We, further, request for you to share the enclosed conference flyer to your contacts and research associates and recommend the event for high quality paper submission.

Best Regards,

Amit Sehgal

CConvener, MedCom-2014

(



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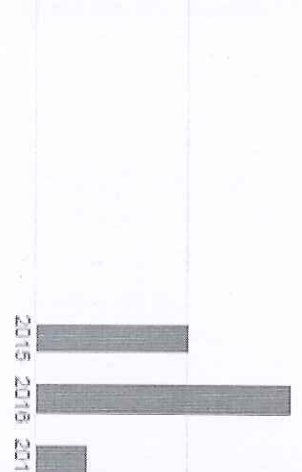
Gireesh, G Sreenivasulu
 International Journal of Control Theory and Applications 8 (2), 817-830

Tuning of PI Controller for a Conical Tank Process with Fuzzy rules 2014

Gireesh, G Srinivasulu
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CSE 34, 35

On Combined Approach for mining FSG in Transactionized Graph Datasets

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Abstract: Graph Data mining has ushered into new era with advanced data mining techniques. Mining Frequent Sub Graphs is the crucial area which appeals the ease of extracting the patterns in the graph. Typical graph data like Social Networks, Biological Networks (for metabolic pathways) and Computer Networks needs analysis of virtual networks of a category. Such graphs need be modeled as layered to distinguish the categories of relationships. Traditional Market Basket Analysis of Data mining has proven its elegance of mining Frequent Items. Combining the techniques of Apriori with Collaborative Mining discriminates a new concept of mining FSG.

Keywords: Graph Data Mining, Link Analysis, FSG.

I. Introduction

Online social networks facilitate connections between people based on shared interests, values, membership in particular groups (i.e., friends, professional colleagues), etc. They make it easier for people to find and communicate with individuals who are in their networks using the Web as the interface.

There are several different online social networks, but for our purposes, we'll focus on the two that tend to be used the most by learning professionals—Facebook, LinkedIn. Each of these networks has its own unique style, functionality and patterns of usage and different people are active in these different networks. LinkedIn is primarily a professional network, designed to facilitate linkages between people who are wanting to connect for work-related purposes. Facebook was originally developed for college students to connect, so it has a more informal, social air than you find on LinkedIn. Now open to anyone, you will still find that Facebook is the preferred network for Millennials who see the encroachment of Boomers and, to a lesser extent, [1]

Common Features of Social Networks

The ability to create a Profile page—this is your main “home” on the network. Different networks offer varying abilities to personalize your page in terms of look and feel. They may also differ in terms of the types of information you would include, such as name, location, education, etc. Facebook, for example, asks for your relationship status (because it’s more “social”), while on LinkedIn, which is primarily for professional use, does not.

A way to find and link to “friends” or connections—The purpose of a network is connections, so facilitating a members’ ability to find and connect to other people is important. Each network offers different types of search capabilities and once you’ve located a potential friend, you must send an “invitation” to invite them into your personal network.

Privacy Controls—In most networks, your ability to access more detailed information about a person is based on their status as one of your connections; “friends” can see much more information than those who are not your “friends.” You can control who is actually in your personal network by effectively managing who you invite into your network and whose invitations you accept.

The ability to send public and private messages—In Facebook, you can communicate with your connections either by sending a private message or “writing on their wall.” On LinkedIn, you communicate via person-to-person messages.

Ability to share various digital objects and information—Facebook allow members to share various online items, including photos, videos and RSS feeds. LinkedIn offers some ability to share links, although it’s multimedia capacities are nothing like what you find on Facebook.

The social graph in the Internet context is a graph that depicts personal relations of internet users. In short, it is a social network, where the word graph has been taken from graph theory to emphasize that rigorous mathematical analysis will be applied as opposed to the relational representation in a social network.[citation needed] The social graph has been referred to as “the global mapping of everybody and how they’re related”. Several issues have come forward regarding the existing implementation of the social graph owned by Facebook. For example, currently, a social networking service is unaware of the relationships forged between

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Performance Evaluation Of Modified V-Blast In MIMO System

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Abstract

The MIMO system (multiple Antennas at the transmitter and receiver) is capable of very high theoretical capacities, the most popular architecture is so called vertical VBLAST. V-BLAST is an effective detection method for MIMO communication system, but has large computational complexity due its successive iteration. In this paper we used modified V-BLAST to lessen its computational complexity reducing the number of successive iterations. As a result of this simplification, the computational complexity of the detection is lowered significantly. Simulation results show that the proposed V-BLAST reduces calculation complexity by about 30% while achieving a very close BER performance s the original one.

Index Terms—BER, MIMO, MMSE, Successive iteration-Blast.

I. INTRODUCTION

The multiple input and multiple output(MIMO)system can increase the spectral efficiency greatly through multiple element antenna array at both the transmit and receive ends so as to meet high bit rate demand in wireless communications and attract more and more attention of communication community. Many approaches have been proposed to combat the frequency-selective fading in MIMO channel. Such as MIMO-DFE, MIMO turbo equalization, MIMO single carrier frequency-domain- equalization and MIMO OFDM etc. In the MIMO OFDM approach proposed V-BLAST is frequently employed in the signal detection of the system's subcarrier channel.

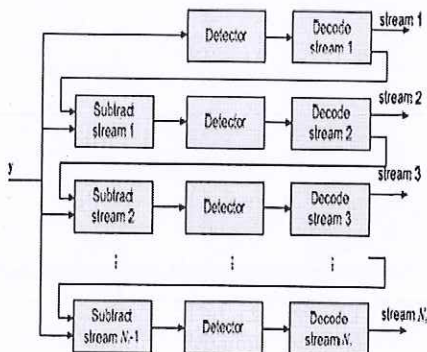


Fig.1 The architecture of the successive interference cancellation(SIC) detecting algorithm for V-BLAST

Fig.1 shows successive interference cancellation process for an VBLAST, in a VBLAST system, a data stream is split into M uncorrelated sub streams each of which is transmitted by one of the M transmitting antennas, the M sub streams are picked up by N receiving antennas after being perturbed by a channel matrix H. In this the sub stream signal with the highest SNR is detected first and this the calculation of pseudo inverse of H using Zero forcing(ZF) or the calculation of minimum mean square error(MMSE). The effect of the detected symbol as well as effect of corresponding channel is subtracted from the N received antennas. The process repeats with the next strongest sub stream signal among the remaining undetected signals. Thus this algorithm detects the M symbols in M iterations and it is proven in [1]. The complexity required to achieve this performance is very high, which it difficult to implement in real time systems.

When symbol cancellation is used the order in which the components detected becomes important to the overall performance of the system. We focus on this property of V-BLAST to reduce the number of successive cancellations process. Normally the ordering is based on channel matrix which has the signal to interference and noise ratio (SINR) information.

VBLAST signal detection, which reduces the complexity by an order of magnitude when the number of antennas is large[2]. However the quite small number of antennas is in practice. So, In this paper we are using a modified VBLAST algorithm that is more efficient than the existing methods.

II. V-BLAST SYSTEM MODEL

The main idea of the V-BLAST architecture is to split the information bit stream into several sub streams and transmit them in parallel using a set of transmit antennas at the same time and frequency; the number of sub streams equals to the number of transmit antennas. At the receiver end, receive antennas obtain the sub streams, which are mixed and superimposed by noise, due to the nature of the wireless propagation channel. Applying proper signal processing procedure, the receiver can

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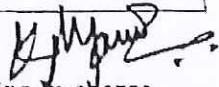
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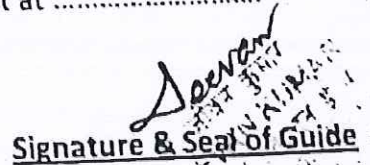

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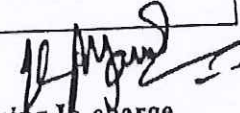
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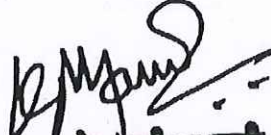
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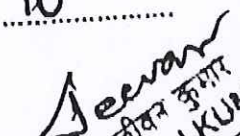
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ESBA: Enhanced Search Based Approach for Software Module Clustering

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Abstract--- Most of the software systems are very large and complex which is difficult to understand their structure. Once software engineer understands the system structure, difficult to preserve this understanding due changing their structure during the maintenance. Software Module Clustering is an important technique to solve the above said problem. In previous, so many approaches are introduced for software module clustering problem. In which those algorithms are not performed well for the software having large number of classes. We introduce an approach called Enhanced Search Based approach which can perform clustering for large software systems. This approach can generate Module Dependency Graph (MDG) having higher Modularization Quality (MQ) based on the high cohesion and low coupling technique. To evaluate the performance of the proposed approach, we apply this approach on seven large software systems. The result shows that Enhanced Search Based approach can perform well than the other approaches.

Keywords--- Clustering, Cohesion, Coupling, Search Based Software Engineering, MDG, MQ.

I. INTRODUCTION

Interesting software systems are very and complex, as consequences which is difficult to understand their structure. One of the reasons for the complexity is having so many entities in the source code that depends on each other in an intricate way. To solve the above problem, the Reverse Engineering Research Community has developed a technique that decomposes (partition) the large software system into meaningful subsystems called clusters [8]. Subsystem provides high level information about the software components, their interfaces and their interconnections. This turns to introduction of Software Module Clustering Technique. There are many ways to approach the module clustering problem. Following Mancoridis et al., who first suggested the search-based approach [2] to module clustering, this paper follows the search-based approach. In the search based approach, the attributes of a good modular decomposition are formulated as objectives, the evaluation of which as a "fitness function" [3] guides a search-based optimization algorithm. In previous work, Genetic

Algorithm was used, but there is no evidence shows that genetic algorithm provides optimal results for large software systems. So, to overcome this problem, we introduce Enhanced Search Based approach improving Modularization Quality (MQ). By this approach we can increase the MQ value. Increasing MQ value will get optimal results for large software systems also.

H. BACKGROUND AND RELATED WORK

There are many approaches are introduced for software module clustering. Several search algorithms are also applied like genetic algorithm for Software Module Clustering. These techniques are outperformed to exhaustive Search Approach.

In order to perform software module clustering, we need Module Dependency Graph (MDG). In MDG, modules are the nodes and relationships are the edges. Good Modularized MDG having highest Modularization Quality (MQ) [1] value. MQ is a sum of Modularization Factor (MF) which is the ratio of intra-edges and inter-edges. Modularization Factor (MF_k) for cluster k can be defined as follows:

$$MF_k = \begin{cases} 0, & \text{if } i = 0 \\ \frac{i}{(i+j)}, & \text{if } i > 0 \end{cases}$$

where i is the weight of intra-edges and j is that of inter-edges, that is, j is the sum of edge weights for all edges that originate or terminate in cluster k. The reason for the occurrence of the term $\frac{1}{i+j}$ in the above equation (rather than merely j) is to split the penalty of the inter-edge across the two clusters that connected by that edge. If the MDG is unweighted, then the weights are set to 1.

MQ can be calculated in terms of MF as

$$MQ = \sum_{k=1}^n MF_k$$

Where n is the number of clusters.

A. Genetic Algorithm

Genetic algorithm [4], [5], [6] uses the concept of population and recombine. Of all optimization algorithms, genetic algorithm [7] is the most widely applied search based technique in Search Based Software Engineering. Figure 1 shows the generic genetic algorithm. An iterative

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Denoising and Deduction of Temperature Profiles for the MST Radar Backscattered Signal

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Abstract: The altitude profiles of temperature in Troposphere and lower stratosphere are derived from back scattered signals received by Indian MST radar located at Gadanki (13.5°N, 79.2°E). The temporal spectra of vertical wind are derived and the Brunt-vaisala frequencies are identified. The temperature profile is then obtained from the measured Brunt – vaisala frequencies following Revathy et.al. Under unstable atmospheric conditions and large horizontal winds the algorithm derived by Revathy et. al is not applicable since the temporal spectrum of wind velocity is affected due to low SNR. This inturn leads to poor temperature profiles. To overcome this limitation, Analytic Wavelet Transform (AWT) is first applied on I and Q channel data of MST radar, into order to improve SNR. After denoising, the temperature profiles even at severe weather conditions with low SNR can be better derived. AWT has proved to be an efficient tool to detect singularities in real signal and good resolution at any spatial frequency can be obtained flexibly. It exhibits good shift-invariance and directional selectivity properties. The temperature profiles are then derived using above technique. The temperature profiles obtained after denoising using AWT are compared with the temperature profiles without denoising. The profiles are greatly improved due to improvement in SNR and are very close to temperature profiles of radiosonde flight data at radar site.

Keywords: Analytic Wavelet Transform, Vertical temperature profile, MST Radar, Backscattered signal.

1. Introduction

The atmospheric radar signal is the signal received by MST Radar. It is due to back scattering property of atmospheric layers, which is associated with noise. The noise level can be reduced by using a

denoising algorithm [1]. Analytic Wavelet Transform, used here as denoising algorithm is very simple to implement and can be achieved in three steps [2]:

- Computation of forward wavelet transform
- Filtering the wavelet coefficients and
- Computing inverse wavelet transform with filtered wavelet coefficients.

It has a high shift invariance degree versus other quasi-shift-invariant wavelet transforms with the same redundancy. It also has enhanced directional selectivity. These features of AWT are utilized in improving SNR of Atmospheric radar signal.

Altitude profiles of temperature play a very important role in the studies of atmospheric stability and turbulence structures. The method used by Rottger [3] derives temperature profiles by identifying Brunt-Vaisala frequency in the spectra of vertical wind velocity oscillations. This method uses MST Radar data for lower atmosphere, and provides high altitude resolution data of vertical winds on a continuous basis in troposphere and lower stratosphere. Later, Revathy et al [4] have derived temperature profile from the observed BV frequency.

In the present paper, the temperature profile is obtained by first subjecting the I and Q channel data obtained from MST radar to Analytic Wavelet Transform. Temporal spectra of vertical wind are then derived. From the obtained temporal spectra, the Brunt-Vaisala frequencies are identified. Finally, the temperature profile is derived from the altitude profile of B-V frequency.

2. MST Radar System and Data Base

The Indian mesosphere-stratosphere- Troposphere (MST) radar at Gadanki (13.47° N, 79.2° E) is a high power, highly sensitive, pulse coded, coherent



MST Radar Signal Processing Using Analytic Wavelet Transform

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Abstract- Atmospheric Radar Signal Processing is one field of Signal Processing where there is a lot of scope for development of new and efficient tools for spectrum cleaning, detection and estimation of desired parameters. Shift-invariance property and good directional selectivity are important for application of wavelet transform in fields like Atmospheric radar signal processing, Image processing. Complex wavelet transforms like Dual Tree Complex Wavelet Transform (DTCWT) and Undecimated Wavelet Transform (UDWT) have these good properties unlike Discrete Wavelet Transform (DWT). In this paper, we realize and implement Analytic Wavelet Transform (AWT) with above good properties in denoising of atmospheric radar signals. AWT has proved to be an efficient tool to detect singularities in real signals and exploit the flexibility of the transform to reach any resolution at any spatial frequency.

The denoising method proposed here is simple and involves three steps. AWT is applied to backscattered signals received from troposphere and lower stratosphere, even at severe weather conditions by Mesosphere- Stratosphere- Troposphere (MST) radar located at Gadanki.

In this paper, AWT has been applied to the time series data obtained from the mesosphere-stratosphere-troposphere (MST) radar near Gadanki, Tirupati. The Algorithm is developed and tested using Matlab. The results showed that the proposed algorithm is efficient for dealing with non-linear and non-stationary signals contaminated with noise. Signal-to-noise ratio is improved greatly with AWT. The results were compared with DWT and plotted for validation of the proposed algorithm.

Keywords - Denoising, Discrete wavelet transform, SNR, Analytic wavelet transform

I. INTRODUCTION

Atmospheric radar signal refers to signal received by MST radar due to backscattering property of atmospheric layers-stratified or turbulent. The received backscattered signals are associated with noise. As the distance between the radar and target increases, the noise dominates the signal which leads to a decrease in signal-to-noise ratio [1]. Improvement in SNR of such signals by reducing noise level is the aim of denoising algorithm, which uses analytic wavelet transform here [2]. This denoising algorithm is achieved in three steps.

- Computation of forward wavelet transform
- Filtering the wavelet coefficients and
- Computing inverse wavelet transform with filtered wavelet coefficients.

There are many wavelet transforms which are used for denoising of atmospheric radar signals. All the wavelet t

ransforms are characterized by two features: the mother wavelets and the primary resolution.

The first wavelet transform is discrete wavelet transform (DWT). The main advantage of the implementation of DWT is its flexibility, as it inherits some classes of mother wavelets like Daubechies, Symmlet or coiflet families. The discrete wavelet transform has three main disadvantages. Lack of shift invariance, lack of symmetry of the mother wavelets and poor directional selectivity. These disadvantages can be diminished using complex wavelet transform [3]. In this paper we propose a very simple implementation of analytic wavelet transform [AWT]. It has a high shift invariance degree versus other quasi-shift-invariant wavelet transforms with the same redundancy. It also has enhanced directional selectivity. These features of AWT are utilized in atmospheric radar signal processing.

II. RADAR DATA SPECIFICATIONS

The MST Radar is located at Gadanki, near Tirupati (13.47°N, 79.18°E). MST radar operates continuously for different type of experimental observations. Here the signal is used on the data recorded corresponds to experiments related to lower atmosphere; i.e. the region of 3.6 km to 20km. Only sample data is used for analysis to demonstrate the technique. Radar records data for each range gate and the resolution of sample can vary depends on experimental specification. Here the sampling interval corresponds to 150m (1 micro sec.) in space is used and number of samples taken on each range gate is about 512 points. Radar echoes are recorded in 6 beam directions, viz. East, West, Zenith-x, Zenith-y, North and South directions. These data are complex in nature and hence the method adopted is complex signal analysis. Each channel (I and Q) is independently treated for all preliminary processes and combined in the final stage while computing Analytic Wavelet Transform for one beam [4].

III. DISCRETE WAVELET TRANSFORM (DWT)

The signal is passed through a series of high pass filters to analyze the high frequencies and it is passed through a series of low pass filters to analyze the low frequencies. The low pass and high pass filters used in DWT are called Quadrature Mirror Filters. The resolution of the signal, which is a measure of amount of detail information in the signal is changed by filtering



An Implementation of Hierarchical Clustering on Indian Liver Patient Dataset

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Abstract: In modern medical applications data mining techniques are very popular and produce accurate results, diagnosing a liver disease is a complicated process that largely depends on the doctor's knowledge, experience, ability to evaluate the patient's current test results and analyse risk factors that might be causation of illness. Therefore, a need for system to assist physician in making accurate and fast decision has arisen. The main focus of the present paper is to analyse the performance of "Hierarchical clustering algorithm" for ILPD dataset. The results are compared with the normal values given medical books and shown that the hierarchical clustering technique was sufficiently effective to diagnose medical dataset especially, liver diseases and suggested that these results may be used for developing Liver Diagnosis Expert Systems.

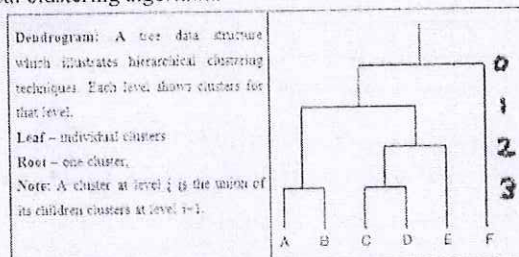
Keywords: Data mining, Clustering, Hierarchical Clustering

I. INTRODUCTION

Data mining is an essential process of applying intelligent methods to extract data patterns. Data Mining is often defined as finding hidden information in Knowledgebase. And hence it is called exploratory data analysis, data driven discovery and deductive learning. The major techniques used in data mining are: Classification, Clustering, Association Rules, Regression, Summarization and Sequence Discovery. Clustering is a group of similar set of data objects.

Clustering analysis is a task of identifying characteristics found on the data. For exploratory data mining clustering plays an important role and it is a common technique for statistical data analysis used in many fields, which includes machine learning, Expert system, pattern recognition, image analysis, information retrieval, and bioinformatics. Clustering techniques are very popular in various medical applications for accurate disease diagnosis.

The most popular clustering methods used in data mining are: Hierarchical Clustering, Partitional Clustering, Density Based Clustering, Hierarchical Clustering, Grid based clustering. The Hierarchical method works by grouping data objects (records) into a tree of clusters. It uses distance (similarity) matrix as clustering criteria with a termination condition. There are mainly two approaches used in hierarchical clustering method. They are: Agglomerative Hierarchical Clustering and Divisive Hierarchical Clustering. A tree data structure may be used to illustrate hierarchical clustering algorithm.



In Hierarchical Clustering - Agglomerative, Data objects are represented in a bottom-up fashion with data objects are initially in its own cluster and then combines these tiny clusters into larger clusters, until all of the data objects are in a single cluster or until certain termination condition specified by the user is satisfied.

Where as in Hierarchical Clustering - Divisive data objects are represented in a top down fashion with all objects are in one cluster initially and then the cluster is subdivided into smaller pieces, until waiting each data object forms a own cluster or certain termination condition specified by the user is satisfied. Here distance between objects in two clusters may be Single link, Average link and complete link based on the distance between clusters is small, average and large respectively. In this paper Hierarchical Clustering is considered because, Tree representation of the cluster is more informative compared to all the remaining clustering algorithms.

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Protecting Privacy When Disclosing Information By using Wireless Sensor Networks

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Abstract— *The Sensor networks promise to have a significant commercial impact by providing strategic and timely data to new classes of real-time monitoring applications. I proposed two algorithms like, resource aware and quality aware algorithms. Here also to provide high quality location monitoring services for system users. The advantage of this algorithms is to reduce communication cost as well as computational cost and provides high quality monitoring. This both algorithms works on k-anonymity privacy concept. This paper provides a formal model for the source-location privacy problem in sensor networks and examines the privacy characteristics of different sensor routing protocols. The main purposes of Our system is people-counting method can automatically count the number of incoming and outgoing people at a special point in real time. Wireless sensor networks have very broad application prospects including both military and civilian usage Sensor networks have the potential to radically change the way people observe and interact with their environment.*

Keywords: *Wireless sensor networks, counting and identity sensors, location monitoring systems*

I. INTRODUCTION

A Wireless Sensor Network is to be made up of a large number of sensors and at least one base station. The sensors are autonomous small devices with several constraints like the battery power, computation capacity, communication range and memory. They also are supplied with transceivers to gather information from its environment and pass it on up to a certain base station, where the measured parameters can be stored and available for the end user. In most cases, the sensors forming these networks are deployed randomly and left unattended to and are expected to perform their mission properly and efficiently. As a result of this random deployment, the WSN has usually varying degrees of node density along its area.

The Sensors networks are also energy constrained since the individual sensors, which the network is formed with are extremely energy-constrained as well the communication devices on these sensors are small and have limited power and range. Both the probably difference of node density among some regions of the network and the energy constraint of the sensor nodes cause nodes slowly die making the network less dense. Also it is quite common to deploy WSNs in harsh environment, what makes many sensors

inoperable or faulty. For that reason, these networks need to be fault-tolerant so that the need for maintenance is minimized. Typically the network topology is continuously and dynamically changing, and it is actually not a desired solution to replenish it by infusing new sensors instead the depleted ones. A real and appropriate solution for this problem is to implement routing protocols that perform efficiently and utilizing the less amount of energy as possible for the communication among nodes. Sensor devices in WSNs monitor the same event and report on them to the base station. Therefore, one good approach is to consider that sensors located in the same region of the network will transmit similar values of the attributes. This fact notices inherent redundancy in the node transmissions that may be used by the routing protocol. Sensor networks need protocols, which are specific data centric, capable of aggregating data and optimizing energy Consumption.

The Classification of Wireless Sensor Network subsection is presented a simple classification of sensor networks based on their mode of functioning and the type of target application. The nodes in Proactive Network sort of network periodically switch on their sensors and transmitters, sense the environment and transmit the data of interest. Hence, they provide a snapshot of the relevant parameters at regular intervals. They are well suited for applications requiring periodic data monitoring. Some known instances of this kind are the LEACH protocol, some improvements on LEACH and PEGASIS. Typical instances of this sort of networks. The nodes of the networks according to this scheme react immediately to sudden and drastic changes in the value of a sensed attribute. The Reactive Networks are well suited for time critical applications. Area monitoring is a common application of WSNs. In area monitoring, the WSN is deployed over a region where some phenomenon is to be monitored. A military example is the use of sensors to detect enemy intrusion; a civilian example is the geo-fencing of gas or oil pipelines. When the sensors detect the event being monitored (heat, pressure), the event is reported to one of the base stations, which then takes appropriate action (e.g., send a message on the internet or to a satellite). Similarly, wireless sensor networks can use a range of sensors to detect the presence of vehicles ranging from motorcycles to train cars.

II. RELATED WORK

A privacy-preserving location monitoring system for wireless sensor networks to provide monitoring services. Our system relies on the well established k-anonymity privacy concept, which requires each person is indistinguishable among k persons. In our system, each sensor node blurs its sensing area into a cloaked area, in which at least k persons are residing. Each sensor node reports only aggregate location information.

The two in-network aggregate location anonymization algorithms, namely, resource- and quality-aware algorithms. Both algorithms require the sensor nodes to collaborate with each other to blur their

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SIMULATION OF NEW DESIGN MUFFLER TO REDUCE NOISE IN EXHAUST SYSTEM OF SI ENGINE

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Abstract. In this research, a finite element approach is presented for modeling and analysis of expansion type muffler are used often in the modern day's automotive exhaust system. The component is analyzed by using Pro-Mechanics FEA tool, modal analysis is carried out on the expansion muffler to avoid resonance condition, natural frequency and mode shapes are presented. The design of silencer of SI engine is a key issue to attenuate or emphasize certain spectral components of multiple noise. The optimization of complex shape silencers system is generally a time-consuming operation, which must be carried out by means of recurrent experimental measurements and numerical simulations. This paper, aims to reduce exhaust noise produced from the exhaust system of C-12 portable 4-stroke SI engine. Exhaust gases from the engine is high pressure, these gases the noise would be tremendous for this reason, the exhaust gases are made to flow through a muffler, it consists of series of metal plates and tubes with required design aspects. Pressure of the gases is reduced when they pass through an expansion type muffler so that the gases out through tail pipe quietly.

Keywords: Muffler Exhaust System and SI Engine

1. INTRODUCTION

The control of both the level and quality of internal combustion engine noise is a key aspect of the design process of a new automotive powertrain system, in order to satisfy the legislation limits and provide a pleasant interior and exterior sound. Due to their broadband characteristics at mid to high frequencies, dissipative mufflers have been widely used in automotive exhaust systems. Although a plane wave model is available for the prediction of the sound attenuation of mufflers at low frequencies, multidimensional analytical techniques are required for higher frequencies are to be considering the propagation of higher order modes. While multidimensional analytical methods are desirable due to their low computational effort, they are not capable to model complex silencer geometries or non-homogeneous properties. Young and Crocker applied the finite element method to reactive concentric expansion silencers to predict their transmission loss. Finite element models for both reacting absorbent materials were presented by Kirby to consider perforated dissipative mufflers with homogeneous properties.

The absorbent materials considered were assumed to be homogeneous. However, in realistic cases of automotive silencers, this assumption is not always fulfilled and heterogeneous acoustic properties of the fibrous materials appear, the presence of these non-homogeneous properties may arise uneven filling processes in dissipative mufflers and degradation

produced by the flow of soot particles within the absorbent material, these two phenomena can cause significant variation in the filling density of the fibrous material, which as a consequence leads to heterogeneity of its equivalent complex density and speed of sound, the muffler accomplishes this with a resonating chamber, which is specifically tuned to cause destructive interference, where opposite sound waves cancel each other out. Expansion-box mufflers are the simplest, and they are rarely found, which has both the inlet and outlet pipes extended into the silencer chamber and perforations are made over both the pipes. The exhaust gas entering into the inlet pipe is allowed to expand through the perforated holes made over the inlet pipe, after expand the gases to strike over a baffle plate axially.

The gases are escapes from one side to the other through the inlet side of the silencer chamber. Finally the gases are out through the perforations made over the extension of the tail pipe. The gases emerge from the outlet are less energetic so that it much quieter than the gas that enters the expansion box. In practice, a large expansion box is needed to give an appreciable reduction in noise so that, the expansion muffler are seldom used, unless in conjunction with another type, while designing a silencer. Model analysis is carried out to find the natural frequency of the system to avoid resonance conditions in the operations. The muffler absorbs sound waves and reduces the noise to socially and legally acceptable level. Redesigned muffler is attached with C-12 portable petrol engine as shown in Table 1.

Experimental Studies on the Performance of C.I Engine with Fish Oil Methyl Ester as Fuel for Various Blends of Diesel and LPG

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Keywords: Biodiesel, Fish oil, Methyl esters, diesel engine and LPG

Abstract:

Fossil fuels are exhausting quickly because of incremental utilization rate due to increase population and essential comforts on par with civilization. In this connection, the conventional fuels especially petrol and diesel for internal combustion engines, are getting exhausted at an alarming rate. In order to plan for survival of technology in future it is necessary to plan for alternate fuels. Further, these fossil fuels cause serious environmental problems as they release toxic gases into the atmosphere at high temperatures and concentrations. The predicted global energy consumption is increasing at faster rate. In view of this and many other related issues, these fuels will have to be replaced completely or partially by less harmful alternative, eco-friendly and renewable source fuels for the internal combustion engines. Hence, throughout the world, lot of research work is in progress pertaining to suitability and feasibility of alternative fuels. Biodiesel is one of the promising sources of energy to mitigate both the serious problems of the society viz., depletion of fossil fuels and environmental pollution.

In the present work, experiments are carried out on a Single cylinder diesel engine which is commonly used in agricultural sector. Experiments are conducted by fuelling the diesel engine with bio-diesel with LPG through inlet manifold. The engine is properly modified to operate under dual fuel operation using LPG through inlet manifold as fuel along FME as ignition source. The brake thermal efficiency of FME with LPG (2LPM) blend is increased at an average of 5% when compared to the pure diesel fuel. HC emissions of FME with LPG (2LPM) blend are reduced by about an average of 21% when compared to the pure diesel fuel. CO emissions of FME with LPG (2LPM) blends are reduced at an average of 33.6% when compared to the pure diesel fuel. NOx emissions of FME with LPG (2LPM) blend are reduced at an average of 4.4% when compared to the pure diesel fuel. Smoke opacity of FME with LPG (2LPM) blend is reduced at an average of 10% when compared to the pure diesel fuel.

Introduction:

India, with its 7,500 km long coastline and an exclusive economic zone of 2.02 million square km, 191,024 km of rivers & canals and 3.4 million hectares of reservoirs and fresh water lakes has an enormous potential for fisheries. India is the third largest producer of fish (7 million tons per annum). All along the coastal line there is no dearth of fish and fish oil are easily available and also the cost of production of bio-diesel from fish oil is quite economical. In a factory processing fish, different parts of the fish are separated. The oil from rendering plant is very rich in Omega-3 content. It is good for health. In some cases, it decomposes into Free Fatty Acid, and becomes non edible. This can be used to manufacture of Bio-diesel. Therefore, Fish oil has been considered as one of the feedstock for bio-diesel fuel production in coastal line of India. [1,4].

COMPARISON OF PERFORMANCE OF DIESEL AND LPG BLENDS IN DUAL FUEL ENGINE WITH TALLOW METHYL ESTER (TME) AS A FUEL

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Keywords: Biodiesel, diesel engine, alternate fuels, tallow oil and methyl esters of tallow oil, LPG

Abstract. Bio-diesel manufactured from vegetable oils, animal fats and used cooking oils is an alternative fuel for diesel engines. It offers many advantages such as renewable, energy efficient, nontoxic, sulfur free and bio-degradable, and also offers cleaner combustion and reduces global warming gas emissions. Experiments are conducted by fuelling the diesel engine with bio-diesel with LPG blends. The engine is properly modified to operate under dual fuel operation using LPG as the mixed fuel along with Diesel and TME as ignition source. The brake thermal efficiency of TME with LPG (2LPM) blend is increased at an average of 5%. HC emissions of TME with LPG (2LPM) blend is reduced by about an average 21%. CO emissions of TME with LPG (2LPM) blends are reduced at an average of 33.6%. NOx emissions of TME with LPG (2LPM) blend are reduced at an average of 4.4%. Smoke Opacity of TME with LPG (2LPM) blend is reduced at an average of 10%.

Introduction

To solve the energy and environmental concerns, the use of renewable energies with lower environmental pollution must be considered. Nowadays, several new and renewable energies have been emphasized and biomass energy is one of the renewable energies among them. Biomass energy includes liquid bio-fuels derived from biomass, which are promising as alternative fuels with low environmental pollution, to substitute petroleum based fuels. Some of the well known liquid bio-fuels are ethanol for gasoline engines and bio-diesel for compression ignition engines or diesel engines [1, 5]. Tallow methyl ester (TME) is a liquid fuel that can be substituted for conventional petroleum based diesel in diesel engines and is part of a range of fuels commonly known as biodiesel. TME is made by reacting methyl alcohol and animal tallow in a process known as transesterification. TME biodiesel has been identified as a potential biofuel for use in India. It is anticipated that TME would probably be utilized by blending with standard petroleum based automotive diesel fuel. In the present investigation a computer based a single cylinder 4-stroke water cooled diesel engine was used at a constant speed of 1500 rpm with eddy current dynamometer. The methyl ester of tallow oil is used in the present investigation are mixed with Diesel and LPG with different proportions as fuel in the diesel engine and is tested for performance and exhaust emission without any engine modification. The optimum results were found out from the above investigations and the performances and emissions are carried out.

TRANSESTERIFICATION

Tallow oil can be transesterified just like any other oil and which can be used in any biodiesel engine. The tallow oil is blended with alcohol and catalyst mixture. The purified tallow oil is mixed with methanol and catalyst mixture in the transesterification unit. This solution is continuously stirred for 70 minutes. During the above process glycerol present in the solution is separated out. After removing the glycerol the liquid bio-diesel is transferred to washing tank where the fuel is washed and the purified bio-diesel is obtained [7].

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Machinability Improvement in Turning of Titanium Alloy (gr2) using Cubic Boron Nitride (cBN) Cutting Tool

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Keywords: cBN, Ti-6Al-4V and Grade2 alloys.

Abstract. Titanium has been perceived as a material that is difficult to machine. Manufacturers are known that, with proper procedures, titanium can be fabricated using techniques no more difficult than those used for machining SS316. The machining of hard workpiece materials requires significantly harder cutting materials. Advancements in the aerospace, nuclear and other industries require the enhanced in-service performance of engineering components. These requirements have resulted in a large scale development and use of heat-resistant and high-strength materials, such as Ti6Al4Valloys, which pose considerable machining problems. In this analysis on machining of titanium alloy using cubic boron nitride (cBN) tools, the machining performance was evaluated in terms of cutting force, specific cutting pressure, cutting temperature, chip strain and surface finish. The studies of turning machinability of titanium alloy using round tee-lock cubic boron nitride (cBN) inserts have been presented. A series of turning experiments were performed with cubic boron nitride (cBN) inserts with the objective: To determining the effect of cutting variable on the tool life. To investigate the effect of cutting speed and feed rate on the surface roughness while using round tee – lock inserts. A good surface finish of 0.5 to 1 micron was obtained for cutting speed between 15 – 45 m/min, feed of 0.10 to 0.20 mm/rev and depth of cut of 1 mm and also find the stress intensity in two different axis will be studied.

Introduction

The machining of hard workpiece material requires significantly harder cutting materials. In contrast to diamond, superhard cubic boron nitride (cBN) is outstandingly eligible for the machining of steels. In spite of being a difficult to machine titanium materials and its alloys find wide application in many industries because of their excellent and unique combination of light – to – weight ratio and high resistance to corrosion. The machinability of titanium and its alloys is impaired by its high chemical reactivity, low modulus of elasticity and low thermal conductivity. Enormous works on machinability of engineering materials have been carried out even though it is difficult to assess machinability index in simple terms. Tool life equation informs that feed and preheating temperature significantly affects the tool life. Induction heating for end milling of



An Energy Analysis of Rayalaseema Thermal (Coal Based) Power Plant

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Abstract— Non-Renewable Energy resources dwindling and Renewable Energy technologies still in their infant stage, there is an ever increasing need for economic use of the left fossil fuel resources. Thermal energy being the life blood of world, it is essential that thermal power plants are analyzed for their energy economy. Energy analysis based on the First Law of Thermodynamics had been found insufficient and hence the Exergy analysis based on the Second Law of Thermodynamics came into picture. Keeping this in view and with the observation that Second Law of Thermodynamics and Exergy are two of the most neglected and hence less understood concepts among students, a project on Exergy analysis was undertaken. Rayalaseema Thermal Power Project located in Kadapa, Andhra Pradesh was the subject of Exergy analysis. The capacity of the plant is 5×210 MW.

As a part of analysis, the power plant was simplified into sub-systems and the locations of exergy losses were traced. Irreversibilities at each sub-system were studied and quantities of exergy losses were calculated at each location. Ways were also suggested to address these losses. The Mass, Energy and Exergy balances were the core of mathematical modeling and calculations. First Law (Energy) efficiency and Second Law (Exergy) efficiency were calculated for the plant and a significant difference was found between them. Various efficiency enhancers like Economizer, Super-heater were also analyzed for their exergy losses. The results were tabulated and graphs were plotted to show the mathematical work and correlation between various parameters in a comprehensive way. The project was an exhaustive one and the results showed that there was a scope of improving the overall efficiency. Finally it's concluded that a total review of the Plant in terms of Exergy would be of great commercial interest to the Thermal Power Project.

Keywords— Exergy, Efficiency, 1st Law Efficiency, 2nd Law Efficiency, Thermal Power Plant, Energy, Coal Based, Thermo Dynamics

1. Introduction

The name thermodynamics comes from the Greek words *therme* (heat) and *dynamics* (power) which is most expressive of the conversion from heat into power. Now a days same name is broadly interpreted to include all aspects of energy and energy transformations, including power generation, refrigeration, and relationships among the properties of matter. The First Law deals with the amounts of energy of various forms transferred between the system and its surroundings and with the changes in the energy stored in the system. It treats work and heat interactions as equivalent forms of energy in transit and offers no indication

about the possibility of a spontaneous process proceeding in a certain direction. The first law places no restriction on the direction of a process, but satisfying the first law does not ensure that the process can actually occur. This inadequacy of the first law to identify whether a process can take place is remedied by introducing another general principle, the second law of Thermodynamics. The exergy method of analysis is based on the Second law of thermodynamics and the concept of irreversibility production of entropy. The fundamentals of the exergy method were laid down by Carnot in 1824 and Clausius in 1865. The energy-related engineering systems are designed and their performance is evaluated primarily by using the energy balance deduced from the First law of thermodynamics. Engineers and scientists have been traditionally applying the First law of thermodynamics to calculate the enthalpy balances for more than a century to quantify the loss of efficiency in a process due to the loss of energy. The exergy concept has gained considerable interest in the thermodynamic analysis of thermal processes and plant systems since it has been seen that the First law analysis has been insufficient from an energy performance stand point. However it can specify where the process can be improved and therefore, it will signify what areas should be given consideration. The simple energy balance will not sometimes suffice to find out the system defect. In such circumstances the exergy analysis is well thought-out to be significant to locate the systems imperfections. Recently, we had new technologies for high temperature air combustion and ultra-high temperature combined cycle. In this case, it is necessary to study the exergy analysis on combustion and thermodynamic processes, because ordinary energy analysis does not have any evaluation supported at its temperature level. If we introduce the exergy analysis against energy analysis, which is supported by this temperature level, it is clear that the high temperature energy has a greater evaluation compared with low temperature one. In this particular field of engineering, it is difficult to use the ambient temperature energy of air and water, which are widely available. When we discuss power generation, high temperature energy of 1500°C and above in combined cycle has higher conversion efficiency than that of 500-600°C in steam cycle. In a thermodynamic cycle, it is necessary to consider the combustion, heat transfer and energy conversion processes, which include many kinds of effective and invalid items. So, when considering the above mentioned processes, the exergy analysis must be introduced to analyze power generation and heat pump cycles as against energy



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DoS and DDoS Attacks: Defense, Detection and Traceback Mechanisms -A Survey

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Abstract- Denial of Service (DoS) or Distributed Denial of Service (DDoS) attacks are typically explicit attempts to exhaust victim's bandwidth or disrupt legitimate users' access to services. Traditional architecture of internet is vulnerable to DDoS attacks and it provides an opportunity to an attacker to gain access to a large number of compromised computers by exploiting their vulnerabilities to set up attack networks or Botnets. Once attack network or Botnet has been set up, an attacker invokes a large-scale, coordinated attack against one or more targets. As a result of the continuous evolution of new attacks and ever-increasing range of vulnerable hosts on the internet, many DDoS attack Detection, Prevention and Traceback mechanisms have been proposed. In this paper, we tend to surveyed different types of attacks and techniques of DDoS attacks and their countermeasures. The significance of this paper is that the coverage of many aspects of countering DDoS attacks including detection, defence and mitigation, traceback approaches, open issues and research challenges.

Keywords: denial of service (DoS), distributed denial of service (DDoS), detection mechanisms and traceback approaches.

GJCST-E Classification : D.4.6



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Energy Efficient Ad-hoc on-Demand Distance Vector Routing Protocol for MANETs'

By N. Papanna, Dr. A. Rama Mohan Reddy & Dr. M. Seetha
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Abstract- A group of wireless devices forms a self-configured MANET. The Mobile Nodes make communication over the wireless links without any prefixed administration. The nodes in ad-hoc networks are battery operated and have limited energy resources. This makes energy efficiency a key concern in ensuring system durability. This paper suggests an Energy Efficient AODV to the MANET. It illustrates the energy conservation technique to improve the routing protocol efficiency. The energy conservation is attained in the MAC layer. It deals with the proposed energy conservation scheme. It explains the relation of routing overhead and energy conservation and it deals with the routing overhead reduction. It calculates the available and required energy of communication node and it evaluates the conserved energy level. It simulates the consuming energy in EE-AODV and, it compares the simulation result with AODV protocol.

Keywords: energy conservation, overhead reduction, AODV, mobility pattern, traffic pattern.

GJCST-B Classification : C.2.2



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RESEARCH ARTICLE

DNS HEALTH VISUALIZATION

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Abstract: The Internet is a highly decentralized and distributed infrastructure, which consists of critical components like IP routing, DNS for ensuring its availability and accessibility. The ever-growing Internet with its phenomenal growth of Websites has led the DNS Extension Working Group (DNSEXT) of the Internet Standards organization – IETF - to identify DNS as the “Critical Infrastructure”. DNS enables naming services used by every internet user, networked application and networked critical infrastructure. Without the availability of DNS, it will be extremely difficult for users to access websites and emails and such other important functions. One of the key challenges in ensuring the availability of DNS is to periodically monitor the global DNS health, which requires resolving challenges such as defining the parameters of DNS health, collecting and collating summarized data from various sources and perform the visualization activity within a short-period of time, so that any counter-measures to protect the DNS health can be taken at the earliest. Visualizing the DNS health requires dealing with different kinds of nodes, analyzing their typical response patterns, their current loads etc., and provides intuitive visualizations for the decision makers - especially the DNS operators at various levels to deal with any threats to the security and stability of the DNS. In this paper, DNS health visualization has been attempted, using commonly available tools, and evaluated for its usefulness and usability.

1. Introduction

DNS is a distributed and decentralized system comprising of several root servers distributed geographically across the World.TLD, ccTLD’s and gTLD’s located across each country of the World, and the authoritative DNS servers spread across the Internet. The DNS, as part of the Internet infrastructure, is a critical component for internet access across the world. A widely used analogy is that DNS compared to a telephone book for the Internet. In 2007, the Internet Engineering Task Force’s (IETF’s) DNS Extensions Working Group (DNSEXT) identified the DNS as “a critical Internet infrastructure” because it resolves billions of queries per day in support of global communications and commerce.

DNS-OARC, the Domain Name System Operation Analysis and Research Center, is a non-profit membership organization that seeks to improve the security, stability and understanding of the Internet’s DNS infrastructure.

Rough Sets in Spatiotemporal, Multimedia Outlier Detection

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Abstract—The major issue that has drawn the attention of researchers on extracting knowledge from spatiotemporal data and multimedia data is the high availability of data gathered from multiple sources. Spatiotemporal data can be gathered from wireless sensor networks and other environmental monitoring systems. Multimedia data can be gathered from various audio, video files. The data collected from various data sources contain outliers, which are grossly different or exceptional when compared with others. Detection of outliers in the process of knowledge discovery is found to be challenging. In this paper, we are dealing the outlier detection problem to find the top outliers from both spatiotemporal and multimedia data by exploiting rough outlier set extraction (ROSE) method, which is based on the rough set theory in its lower and upper approximations, even with uncertainties in data sets.

Index Terms—Spatiotemporal data, Multimedia data, Outliers, Rough sets, Uncertainty.

I. INTRODUCTION

Data mining can be referred to a process of discovering knowledge from data where the main emphasis is on uncovering interesting data patterns that are hidden in large data sets. Spatiotemporal and multimedia data mining are growing research areas involving the discovery of hidden knowledge in large spatiotemporal and multimedia databases, mainly by detecting periodic and frequent patterns. A database may contain data objects that do not comply with the general behavior or model of the data [4]. These objects are known as outliers. The major applications of outlier detection include credit card fraud detection, intrusion detection in computer networks, and detection of abnormal regions or detecting motion in images. The presence of outliers makes modeling and mining difficult due to the discordance of outliers that are introduced into the data [1]. The most important existing approaches for outlier detection are:

1. Distribution-based approaches [7] that make use of statistical distributions are used to model the data and outliers deviate from the model.
2. Depth-based approaches [8] that evaluate different layers of convex hulls are computed and the objects

belonging to the outer layers are declared as outliers.

3. Distance-based approaches [9] that compute distances of every object from a target object.
4. Density-based approaches [10] that assign a weight to each sample based on the neighbourhood density.

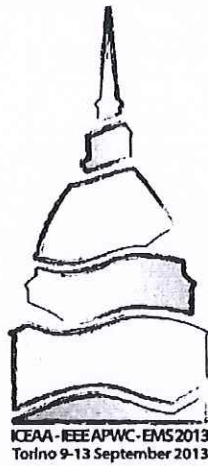
The proposed method involves detection of outliers from both spatiotemporal and multimedia data through rough sets known as Rough Outlier Set Extraction (ROSE) [1], where rough set theory is used to define outliers in terms of its lower and upper approximations. This paper is organized as follows: Section 2 describes spatiotemporal data mining and Section 3 describes multimedia data mining. Section 4 gives the major concepts of rough set theory that are related to the work. Section 5 introduces the problem definitions. Section 6 gives the ROSE approach to extract spatiotemporal and multimedia outliers. Finally Section 7 concludes the ongoing work.

II. SPATIOTEMPORAL DATA MINING

A spatial data set is one that has its attributes containing land information or geographical locations on the earth. A temporal data set is one that has its attributes containing several events that are ordered by one or more dimensions of time. Data sets with attributes containing both location information constrained by time information are referred to as spatiotemporal data sets. Data relating to space and time together, having spatial extension along with temporal duration is also referred to as spatiotemporal data. Similarly, a spatial database that stores spatial objects that change with time is called a spatiotemporal database, from which interesting information can be mined [4]. Extraction of implicit knowledge, spatial and temporal relationships stored in spatiotemporal databases is also known as spatiotemporal data mining. For example, to group the trends of moving objects and identify some strangely moving vehicles, or distinguish a bioterrorist attack from a normal outbreak or the flu based on the geographic spread of a disease with time [4]. Spatiotemporal uncertainty is the lack of, or the error in, knowledge about either an object's position on the earth with respect to the latitudes and longitudes or an object's motion at various time intervals.

III. MULTIMEDIA DATA MINING

Multimedia is defined as a combination of more than one media [2]. Generally, the two types of media are static and



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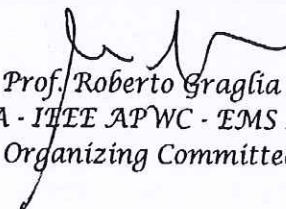
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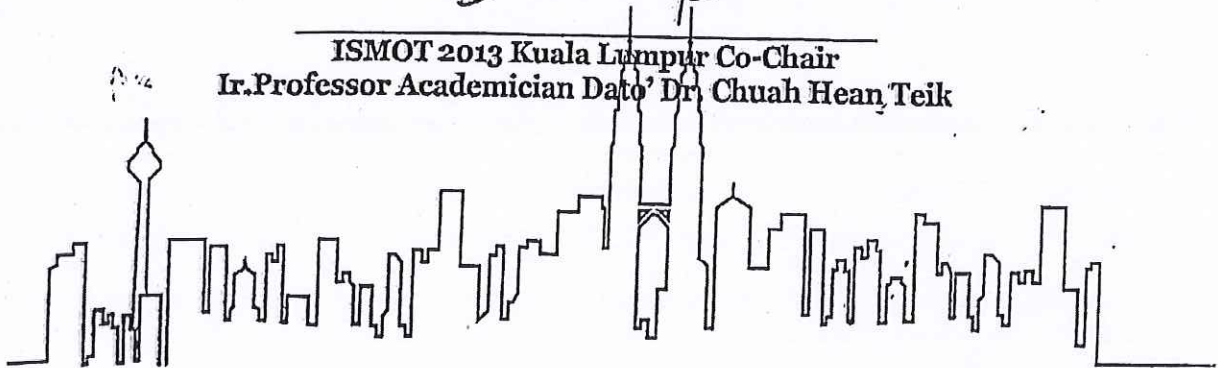
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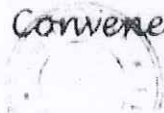
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Dr. M. Usha Rani
Convener



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[TENSYP'14] Review for paper #1569826523 completed

Thu, Oct 31, 2013 at 2:52 PM

TENSYP'14 <nordin@ieee.org>

To: Nimmagadda Padmaja <padmaja202@gmail.com>

Cc: Nordin Ramli <nordin@ieee.org>, Hafizal Mohamad <hafizal.mohamad@mimos.my>, Norliza Mohd Noor <norliza@ic.utm.my>, Zuhaina Zakaria <zuhaina@ieee.org>, Mohamad Yusoff Alias <yusoff@mmu.edu.my>

Dear Dr. Nimmagadda Padmaja,

Thank you for completing the review of the paper #1569826523 ("Comparitive Spectral Analysis of Atmospheric Radar Signal processing by using HHT with FFT Algorithm") for TENSYP'14. Below is a copy of your review.

You can modify the report by going to <https://edas.info/R.php?r=5721933> up to the due date of November 1, 2013 22:59:00 EDT.

Best regards,
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-
- > *** Relevance and timeliness: Rate the importance and timeliness of the topic addressed in the paper within its area of research.
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 - > *** Technical content and scientific rigour: Rate the technical content of the paper (e.g.: completeness of the analysis or simulation study, thoroughness of the treatise, accuracy of the models, etc.), its soundness and scientific rigour.
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Readable, but revision is needed in some parts. (3)
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 - > *** Strong aspects: Comments to the author: what are the strong aspects of the paper
HHT is recently developed method of analysis of non-linear and non-stationary signals.
The authors have taken the real time Radar data and performed spectral analysis and plotted doppler profiles.
 - > *** Weak aspects: Comments to the author: what are the weak aspects of the paper?
The authors demonstrate an application of Comparative Spectral Analysis of Atmospheric Radar Signal using HHT and FFT Algorithm. The contributions of the paper however are not well-expressed in the paper. The authors need to clarify and address these contributions, if any, in a more clear and concise way.
 - > *** Recommended changes: Recommended changes. Please indicate any changes that should be made to the paper if accepted.
 1. The paper is not in the IEEE standard and needs to be severely revised.
 2. Figures are not clear and needs to be labelled.

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GRSL paper ready for your access**Geoscience and Remote Sensing Letters**

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Improved Temperature Profiles for Atmospheric Radar Signal Using Dual-Tree Complex Wavelet Transform

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*(Associate Professor, Dept. of ECE, SVEC, Tirupati)

** (Professor, Dept. of ECE, SVUCE, Tirupati)

ABSTRACT

Atmospheric temperature profiles play a very important role in the study of atmospheric stability and turbulence structures. The temperature profile for Troposphere and lower Stratosphere are derived from backscattered signal of Indian MST radar located at Gadanki (13.5°N, 79.2°E), using vertical wind observations. The altitude profiles of Brunt-Vaisala (BV) frequency are obtained from the derived spectra of vertical wind. The temperature profiles are then obtained from BV frequencies following Revathy et al. This method leads to poor temperature profiles under unstable atmospheric conditions and large horizontal winds due to low Signal to Noise Ratio (SNR). Better temperature profiles even at severe weather conditions with low SNR can be obtained by priori application of denoising technique. In the present paper, Dual tree Complex Wavelet Transform (DTCWT) is implemented, and is used as denoising technique. DTCWT provides a high degree of shift-invariance and better phase information compared to other complex wavelet transforms.

The MST Radar data is first denoised with DTCWT and then the temperature profiles are derived using the above mentioned technique of identifying BV frequencies. The derived temperature profiles are compared with the profiles of original MST data without denoising and radiosonde flight data at radar site during the observations, for validation. A good improvement in the profiles is obtained due to improvement in SNR using DTCWT.

Keywords- Back Scattered Signal, Dual Tree Complex Wavelet Transform, MST Radar, Shift invariance, Vertical temperature profile.

I. INTRODUCTION

Atmospheric Radar Signal processing is a field of signal processing where there is a lot of scope for development of new and efficient tools for spectrum cleaning, detection and estimation of desired parameters. The echoes received from MST region are very weak and buried in noise, hence denoising methods are necessary [1]. These methods result in enhancement of signal to noise Ratio (SNR) in order to have improvement in detection ability [2].

Fast Fourier Transform (FFT) is an important tool for analysis and processing of many natural signals. But it is limited to stationary and linear signals. Short Time Fourier Transform (STFT) deals with non-stationary signals but with a trade-off between time and frequency resolutions. Continuous Wavelet Transform is an alternative approach to STFT which overcomes resolution problem by changing the width of window during the computation of transform. As far as, the reconstruction of the signal is concerned, this transform provides highly redundant information, which requires significant amount of computation time and resources.

Discrete Wavelet Transform (DWT) on the other hand, is considerably easier to implement, when

compared to Continuous Wavelet Transform and provides sufficient information both for analysis and synthesis of original

signal with a significant reduction in computation time. Standard DWT is implemented through a simple filter bank structure and allows Multi Resolution Analysis (MRA). These advantages popularized DWT in many signal processing applications like Denoising, Spectrum Cleaning, Evaluation of desired parameters etc. The three main disadvantages associated with DWT are lack of shift invariance, lack of symmetry of mother wavelets and poor directional selectivity.

These disadvantages are diminished by the use of complex wavelet transform [3] like Analytic Wavelet Transform (AWT) and Dual Tree Complex Wavelet Transform [4]-[6].

In this paper, DTCWT with soft thresholding technique is implemented and applied to backscattered radar signal. The results are compared with DWT in terms of SNR.

The temperature profiles of atmosphere plays a very important role in the studies of atmospheric stability and turbulence structures. The temperature profiles, in the present paper are derived using the method of Revathy et al., by identifying Brunt-Vaisala frequency from the spectra of vertical

Image Steganography Based On Optimal LSB Pixel Adjustment Method

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ABSTRACT

Now a days, internet becomes major channel for communicating information one place to other such as text, image, audio, video data. Steganography is a technique in which information can to be communicating secretly by hiding in another such as secondary information with changing its significance. This paper presents a new approach of image steganography using polynomial based optimal LSB and pixel adjustment method. This method main focus on adaptiveness of LSB's replacement and pixel adjustment for improving the capacity of hiding data and robustness of steganography. Objective analysis is done over the proposed method using MSE, PSNR and Normalized correlation method.

General Terms

Image processing, Data Security, steganography

Keywords

LSB Steganography, polynomial equations, Normalized correlation, Data hiding capacity.

I LITERATURE SURVEY

In olden days different data hiding methods are used for communicating information secretly. For example, during the Second World War invisible ink was used to write the information on a paper so that paper looks like a plain paper to other people. When we apply liquids like urine, milk, vinegar etc., and heated then letters on the paper are visible [1]. Today internet becomes very popular medium for communicating data such as text, image, audio, video etc. But cyber crimes, information copying and thefting are increasing day by day. To achieve secured communication data hiding methods are needed. Data hiding are of three types cryptography, steganography, watermarking [3].

Cryptography is a technique that hides data in scrambled in an unintelligent manner. It is difficult to the malicious user to extract the original message. The main drawback of the cryptography is that encrypted can be arouse suspiciously by the un authorized recipient which may causes message to damage. After that intended recipient cannot recover the message data[4][6][3]. Steganography comes from the Greek words Steganos (Covered) and Graptos (Writing).Steganography is about concealing and hiding information and provides secured communication between sender and recipient[2][1]. The data which contains secret message is called cover image and type of steganography is depend on the type cover. If cover is a text or image it is called text or image steganography respectively. In general, Steganography are of two types fragile and robust [text][1]. In fragile, information is hiding in the cover without destroying or damaging the significance of cover image. If cover image is damaged during communication secret message cannot be recovered. In robust, message is hidid with protection and detection capabilities. Again, fragile steganography are of two types adaptive and non adaptive. In non-adaptive, modifications due to embedded data are uncorrelated with the cover features. In adaptive, modifications are correlated with cover features.

Steganography can be done in two ways; they are spatial domain method[3][4] and frequency domain method[5][6][7]. In Frequency domain, carrier image is transformed to its frequency representation before embedding the secret image. This method is difficult and slower than spatial domain. In spatial domain, secret image is embedding directly into the pixels of the carrier image. This method is easy and fast but less tolerance to noise. Least significant bit(LSB) substitution method is most commonly used in spatial domain. It has less data hiding capacity and less tolerance to noise. Steganography Terms:Cover-Medium – The medium in which information is to be hidden, also sometimes called as Coverimage or carrier. Stego-Medium – A medium in which information is hidden. Message – The data to be hidden or extracted. Stego_medium= hidden_message + carrier + stego_key.

In this paper, a new approach for image steganography is proposed using adaptive LSB replacement and pixel adjustment method. The adaptive LSB is referred from[2] and pixel adjustment method is referred from [3]. In this paper we proposed by combining the the above together to implement image steganography using polynomial equations. The performance analysis is done based on the mse, psnr and normalized correlation methods. Experimental results demonstrate the image quality and improved storage capacity.

II SIMPLE LSB INSERTION METHOD

In this section general operations of data hiding by simple LSB insertion method is described . simple LSB method embeds fixed length secret bits in the same length LSBs of pixels. It causes distortion when number of bits exceeds three.

Let us consider C be the original 8 bit cover image of size $M_c \times N_c$.

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Improved Quality of Image Steganography Using POLPA

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Professor, Dept. of ECE, SVU College of Engineering, S V University, Tirupati. Andhra Pradesh².

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ABSTRACT: In the modern steganography, even if hidden information is unable to reveal, its existence changes the statistical properties of the cover media which leads to distortions in the cover media. Distortions in the cover media will make the job of eavesdropper easier to determine whether steganography has been used or not!. As the payload capacity of secret information increases, the distortion in the cover media rises. This breaks the very significance of steganography. In this paper a new approach called Polynomial Based Optimal LSB Pixel Adjustment (POLPA) is implemented to achieve image steganography. This approach improves the payload capacity of the secret information and maximizes the quality of the stegoimage statistically and perceptually. The proposed method is compared with Least Significant Bit insertion and DCT steganography methods over JPEG and BMP image formats. The quality of the steganography measured based on PSNR, Normalized Cross Correlation Error, Universal Image Quality Index (UIQI), Structural Similarity Index Metric (SSIM).

Keywords: Data hiding, Steganography, LSB, DCT, Polynomial, Quality metrics.

I. INTRODUCTION

The word steganography is derived from Greek words Steganos and graphia. Steganos means covered and graphia means writing. Thus steganography means covered writing which is an art of covert communication. The word steganography is invented by the Trithemium who done an explicit work on cryptography [1]. Steganography have been under practice from the ancient period. In the history Herodotus discuss several stories such as slave and the shaved head, that gives the evidence for the presence of the secret communication [1, 2, 3]. Later in the 15th century Aleneas proposed different steganography methods including information hiding in the earrings of women, message by pigeons etc [10, 1].

According to Abbas chedda, Italian mathematician Jerome cardem reinvents the Chinese ancient paper masking method. In 19th and 20th century, Nazis invented several methods during Second World War such as microdots, invisible ink, and null cipher. In 1945 Morse code was concealed in a drawing [2,4,5]. In the digital era, steganography plays significant role in many applications where secret communication is necessary. For example, military and intelligence agencies have to pass the information in a secured manner to the recipients in order to restrict the attacks by the enemies. Similarly in law enforcement, counter intelligence agencies, banking, business and trading etc.

Basically steganography is a stream of data hiding. Data hiding is a broad researching area where data is embedded secretly in another file .The purpose is for either authentication or communication. But steganography is used for secured communication especially. Broad classification of data hiding and steganography is given below Figure 1 [1,7, 8]. There are four major challenges in the field of steganography [6, 7, 8].First one is to enhance the security for the communication. Secondly, quality of the stego image i.e., indistinguishable form of a stegoimage to maintain imperceptibility to the malicious user. Thirdly, improvement in the pay load capacity and fourth one is to improve the robustness against the attacks by the unauthorized user i.e., ability to withstand for modifications.

at least one node and also they will be having the log of the system. Through this the server can do server load balancing and accurate search concepts will be implemented.

Keywords: Distributed system, Cooperative caching, Count boot filter, Evolution recent retrievals.

ARM-48 Detection of Emergent Pedestrian Crossings for Driving Assistance Systems

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Abstract: In this paper, we discuss the problem of detecting emergent pedestrian crossings to assist drivers in avoiding accidents. This phenomenon has two major requirements: to detect crossing pedestrians as early as possible just as they enter the view of the car-mounted camera and to maintain a false alarm rate as low as possible for practical purposes. Although many current sliding-window-based structure using various approaches and classification algorithms have been proposed for image based pedestrian detection, their performance in terms of accuracy and processing speed falls far short of practical application requirements. To address this problem, we propose a three-level coarse to- fine video-based framework that detects partially visible pedestrians just as they enter the camera view, with low false alarm rate and high speed. The framework is tested on a new collection of high-resolution videos captured from a moving vehicle and yields a performance better than that of state-of-the-art pedestrian detection while running at a frame rate of 55 fps.

ARM-49 BIST Controller Design to Monitor Fault Detection Activity with Hold Logic and a Signature Generation Element

R. Kalyan¹, Vittalam D Kumar Reddy², K. Manjunath³ and A. Sai Suneel⁴

¹Research Scholar, Dept. of ECE, JNIAS, JNTUA, Anantapur. ²M.Tech. Scholar, Dept. of ECE, Sreerama engineering college, Tirupati. ³M.Tech., Assistant Professor, Dept. of ECE, SWTS, Tirupati. ⁴M.Tech., Assistant Professor, Dept. of ECE, SE&T, SPMVV, Tirupati.

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Abstract: Today Field Programmable Gate Arrays (FPGAs) are widely used in many applications. These FPGAs are prone to different types of faults similar to other complicated integrated circuit chips. Faults may occur due to many reasons like environmental conditions or aging of the device. The rate of occurrence of permanent faults can be quite high in emerging technologies, and hence there is a need for periodic testing of such FPGAs. The Configurable Logic Blocks (CLBs) are the main logic resources for implementing sequential

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SPMVV, Tirupati.

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- ARM12 A Novel Ferry-Initiated Message Ferrying Approach for Data Delivery in Disconnected Mobile Ad Hoc Networks through Native Ferries
K. Muralidhar and Dr. N. Geethanjali
- ARM33 Video Coding by Using Quantum Particle Swarm Optimization Technique and DWT
Shaik Jumlesha and Dr. Ch. Satyanarayana
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- ARM87 Video Enhancement by the Bio-Vision System
Sudarshan E., Dr. CH Satyanarayana and Dr. C. Shoba Bindu
- ARM89 Data Mining Techniques For Time Series Data
T. Soni Madhulatha
- ARM106 Comparison of Telugu Speech Recognition Accuracy among the Male and Female Speech
N. Usha Rani

Session-2(A23ME)

Venue: Saaveri Conference Hall
SPMVV, Tirupati.

Date&Time: 23.10.13, 2 PM – 5 PM

- ARM18 Development of Natural language Interface to Relational Database
Shaik Thahazeb Hussain and Dr. M. Sreenivasulu

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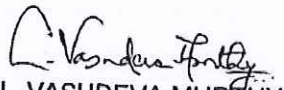


ISO 9001:2008

CERTIFICATION OF PROJECT COMPLETION

Date: 25-08-2014

This is to certify that Ms. BARAKAM MASTAN CHANDRANI (12121D3801) is the student of SREE VIDYANIKETHAN ENGINEERING COLLEGE pursuing M.Tech., (DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS) has done project work entitled "PERFORMANCE COMPARISON OF ENERGY EFFICIENCY IN BETWEEN OFDM AND LTE SYSTEMS" from 04-02-2014 to 04-08-2014 for the award of the certificate for the Degree mentioned above and that this report is a bonafide account of the project work carried out under our guidance. The student displayed analytical capability, has innovation approach to solve problems and has produced good result.


L. VASUDEVA MURTHY

HEAD, CED

L VASUDEVA MURTHY
AGM & Head, CED
FRG ECIL, HYDERABAD.



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वेब साइट / Web Site : www.ecil.co.in, ई-मेल / E-mail : headced@ecil.co.in

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Phone: + 91 8585 272024, 222140
Fax: + 91 877 2248146 / + 91 8585 272018/21

01-09-2014

Certificate

This is to certify that the project work entitled "Design of single stacked Micro strip patch Antenna with Aperture coupling Feed" is a bonafide record of work done by Ms.M.Divyajyothi, M.Tech student of Sree Vidyanikethan Engineering College (SVEC), affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNVERSI ANANTAPUR, Anantapur, during the period 08-01-2014 to 30-8-2014 at NATIONAL ATMOSPHERIC RESEARCH LABORATORY (NARL), Department of Space, Gadanki.

M.Durga Rao
Scientist/Engineer-'SE'
डॉ. एम. दुर्गा राव / M. DURGA RAO
वैज्ञानिक / अभियंता 'एसई' / Scientist / Engineer 'S'
राष्ट्रीय वायुमंडलीय अनुसंधान प्रयोगशाला
National Atmospheric Research Laboratory
अन्तरिक्ष विभाग/Dept. of Space, भारत सरकार/Govt. of India
गदंकी/GADANKI-517 112, आंध्र प्रदेश /A.P.

भारत हेवी इलेक्ट्रिकल्स लिमिटेड Bharat Heavy Electricals Limited



कार्पोरेट अनुसंधान और विकास प्रभाग, विकासनगर, हैदराबाद - 500 093, भारत
Corporate Research & Development Division, Vikasnagar, Hyderabad - 500 093, (A.P.) INDIA.
फोन / Phone: 040 - 23770066, फैक्स / Fax: 040 - 23776320, ई-मेल / E-mail: hrd@bhelindia.co.in
मानव संसाधन विकास एवं उन्नत प्रौद्योगिकी शिक्षा केंद्र / HUMAN RESOURCE DEVELOPMENT & ADVANCED TECHNICAL EDUCATION CENTRE



Date: 25.08.2014

This is to certify that the Project work titled "Design and Development of FPGA based controller for Power Electronics application is a record of bonafide work carried out in Power Electronics Systems (PES) Lab/Department during the period from 27.01.2014 to 30.08.2014 by

M. Lakshmi Prasanna

Roll.No.12121D3805

Student of Final Year M.Tech of Sree Vidyanikethan Engineering College (Autonomous) affiliated to Jawaharlal Nehru Technological University, Anantapur, for the Academic Year 2013-2014 in partial fulfillment for the Award of Master of Technology (M.Tech) with specialization in "Digital Electronics and Communication Systems (DECS)".

Padhee

Head, HRD & ATEC, PADHEE
एच.आर.डी. एंड. ए.टी.ई.
अपर महाप्रबंधक (एच.आर.डी. एंड. ए.टी.ई.)
Addl. General Manager (HRD & ATE)
वी.एच.ई.एल., अनु. एवं. वि. / BHEL, R & D
विकासनगर, / VIKASNAGAR,
हैदराबाद / HYDERABAD-500 093.

R.P.Muni

डॉ. विष्णु प्रसाद मुनी / P. MUNI P. MUNI
महाप्रबंधक (विकासनगर)
GENERAL MANAGER (PES)
वी.एच.ई.एल., अनु. एवं. वि. / BHEL, R&D
विकासनगर, / VIKASNAGAR
हैदराबाद / HYDERABAD-500 093

S. Mukherjee
26/8/14

Project Guide
शोभिक मुखर्जी / SHOUBHIK MUKHERJEE
अभियंता (पी.ई.एस.) / ENGINEER (PES)
वी.एच.ई.एल., अनु. एवं. वि. / BHEL, R&D,
विकास नगर / VIKASNAGAR
हैदराबाद / HYDERABAD-500 093.

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Corporate Research & Development Division, Vikasnagar, Hyderabad - 500 093, (A.P.) INDIA.
फोन / Phone: 040 - 23770066, फेक्स / Fax: 040 - 23776320, ई-मेल / E-mail: hrd@bhelrhd.co.in
मानव संसाधन विकास एवं उन्नत प्रौद्योगिकी शिक्षा केंद्र / HUMAN RESOURE DEVELOPMENT & ADVANCED TECHNICAL EDUCATION CENTRE



Date: 01.09.2014

This is to certify that the Project work titled "Design and Implementation of Redundant Architecture in Electronic controller for critical power plant control Application" is a record of bonafide work carried out in Programmable Control Systems (PCS) Lab/Department during the period from 27.01.2014 to 01.09.2014 by

Mr. M. Ravitheja

Roll.No.12121D3806

Student of Final Year M.Tech of Sree Vidyanikethan Engineering College (Autonomous) affiliated to Jawaharlal Nehru Technological University, Anantapur, for the Academic Year 2013-2014 in partial fulfillment for the Award of Master of Technology (M.Tech) with specialization in "Digital Electronics and Communication Systems (DECS)".

Head, HRD & ATEC
एच.डी.ए.टी.सी. / ATEC-PADHEE
अपर महाप्रबंधक (एच.आर.डी. एवं.ए.टी.ई.)
Addl. General Manager (HRD & ATE)
वी.एच.ई.एन., अनु.एवं.वि / BHEL, R & D
विकासनगर / VIKASNAGAR
हैदराबाद / HYDERABAD-500 093

LM/GH
एल.एस.एन मूर्ति / L.S.N. MURTHY
अपर महाप्रबंधक (पी.सी.एस)
Addl. General Manager (PCS)
वी.एच.ई.एन., अनु.एवं.वि / BHEL, R&D,
विकासनगर / VIKASNAGAR
हैदराबाद / HYDERABAD-500 093.

Project Guide
एल.एस.एन मूर्ति / L.S.N. MURTHY
अपर महाप्रबंधक (पी.सी.एस)
Addl. General Manager (PCS)
वी.एच.ई.एन., अनु.एवं.वि / BHEL, R&D,
विकासनगर / VIKASNAGAR
हैदराबाद / HYDERABAD-500 093.

पंजीकृत कार्यालय: भेलहाउस, सिराफाट, नई दिल्ली - 110 049.
Registered Office: BHEL House, Siri Fort, New Delhi - 110 049.

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राष्ट्रीय वायुमंडलीय अनुसंधान प्रयोगशाला
पो.बॉ.नं. 123, एसवीयू कैम्पस डाक घर
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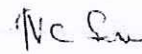


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Fax: + 91 877 2248146 / + 91 8585 272018/21

09-09-2014

Certificate

This is to certify that the project work entitled "Development and implementation of digital radio algorithms on FPGA based system", is a bona fide record of work done by Mr. P. Kalyan Venkatesh, M.Tech student of Sree Vidyanikethan Engineering College (SVEC), affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR, Anantapur, during the period 03-02-2014 to 09-09-2014 at NATIONAL ATMOSPHERIC RESEARCH LABORATORY (NARL), Department of Space, Gadanki.


Dr. T.V.C.Sarma
Scientist/Engineer - SF



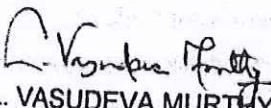
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CERTIFICATION OF PROJECT COMPLETION

Date: 25-08-2014

This is to certify that Ms. RIMMALAPUDI LIKHITHA (12121D3812) is the student of SREE VIDYANIKETHAN ENGINEERING COLLEGE pursuing M.Tech., (DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS) has done project work entitled "PERFORMANCE EVALUATION OF BLIND IMAGE QUALITY ASSESSMENT ON DECONVOLVING IMAGES" from 04-02-2014 to 04-08-2014 for the award of the certificate for the Degree mentioned above and that this report is a bonafide account of the project work carried out under our guidance. The student displayed analytical capability, has innovation approach to solve problems and has produced good result.


L. VASUDEVA MURTHY
HEAD, CED

L VASUDEVA MURTHY
AGM & Head, CED
FSG ECIL, HYDERABAD.



अतिथि गृह कॉम्प्लेक्स, ई सी आई एन, हैदराबाद, आं. प्र., भारत.
Guest House Complex, ECIL, Hyderabad - 500 002, A.P., INDIA.
दूरभाष / Tel. 2712 3045, 2712 2816, टेली फैक्स / Tele Fax : +91-040-2712 6017
वेब साइट / Web Site : www.ecil.co.in



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ECIT



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CERTIFICATION OF PROJECT COMPLETION

Date: 25-08-2014

This is to certify that Ms. D. VANI (12121D3814) is the student of SREE VIDYANIKETHAN ENGINEERING COLLEGE pursuing M.Tech., (DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS) has done project work entitled "ENHANCEMENT OF HUMAN VISUAL SYSTEM (HVS) USING DIFFERENT MULTI RESOLUTION BASED FILTER BANKS" from 04-02-2014 to 04-08-2014 for the award of the certificate for the Degree mentioned above and that this report is a bonafide account of the project work carried out under our guidance. The student displayed analytical capability, has innovation approach to solve problems and has produced good result.


L. VASUDEVA MURTHY

HEAD, CED

L VASUDEVA MURTHY
AGM & Head, CED
ESG ECIL, HYDERABAD.



अतिथि गृह कॉम्प्लेक्स, ई सी आई एल, हैदराबाद, आं. प्र., भारत.
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वेब साइट / Web Site : www.ecil.co.in ई-मेल / E-mail : headced@ecil.co.in



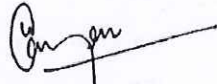
275

सं. आर सी आई /
No. RCI /
अनुसंधान एवं विकास संगठन (रक्षा मंत्रालय)
Research & Development Organisation (MOD)
अनुसंधान केन्द्र इमारत
RESEARCH CENTRE IMARAT
विज्ञान कोंचा - पि. ओ.
VIGNYANA KANCHA - P.O.
हेदराबाद - 500 069.
HYDERABAD - 500 069.

CERTIFICATE

This is to certify that **Miss. A.Keerthi** student of Sree Vidyanikethan Engineering College, Tirupathi studying in final year M.Tech in VLSI, has done a project entitled **"Devolpment of Double Precision Floating Point Multiplier Core for Radar Seeker DSP Application"** at Research Centre Imarat, Hyderabad towards the partial fulfillment of Master of Technology Degree. This is a record of bonafide work carried out by him for Research Centre Imarat, DRDO under my guidance.




(S.B.GAYEN)

SCIENTIST-'F'
RCI,
HYDERABAD

S.B. GAYEN
SCIENTIST 'F'
HEAD, RDP/MSG
RESEARCH CENTRE IMARAT
MINISTRY OF DEFENCE (DRDO)
GOVT. OF INDIA, HYDERABAD-500 069



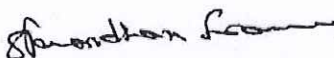
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कम्प्यूटर शिक्षा प्रभाग / COMPUTER EDUCATION DIVISION



CERTIFICATION OF PROJECT COMPLETION

Date:01/03/2014

This is to certify that Ms. K.PRATHIMA KUMARI (10121A0446), Mr. A.SAI ANUDEEP (10121A0404), Mr. A.ASHOK KUMAR (10121A0405) & Ms. L.DIHARANI (10121A0465) are the students of SREE VIDYANIKETHAN ENGINEERING COLLEGE pursuing B.Tech (ELECTRONICS AND COMMUNICATIONS ENGINEERING) have done their project work entitled "TOUCH PANEL BASED WHEEL CHAIR FOR HANDICAPPED PERSONS" during 27-01-2014 to 01-03-2014 in partial fulfillment for the award of the certificate for the degree mentioned above and that this report is a bonafide account of the project work carried out under our guidance. The students displayed analytical capability, have innovation approach to solve problems and have produced good result.


(S.JANARDHAN SWAMY)
(DGM, CED)
एस. जनीधन स्वामी
S. JANARDHAN SWAMY
उप महा प्रबंधक
Deputy General Manager
सीईडी, ई.सी.आई.एल, हैदराबाद-62
CED, ECIL, HYDERABAD-62



अतिथि गृह कॉम्प्लेक्स, ई सी आई एल, हैदराबाद, आं. प्र., भारत.

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तिरुपति - 517 502
प्रयोगशाला : पो : गडंकी - 517 112
पाकाला मंडल, चित्तूर जिला, आंध्र प्रदेश
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Fax: + 91 877 2248146 / + 91 8585 272018/21

Ref: NARL/LIDAR/03/2014

Dated 28 March 2014

Dr. Y. Bhavani Kumar, Ph.D
Project Leader, LIDAR Project

To whomsoever It may concern

This is to certify that the following B.Tech students from Sree Vidyanikethan College of Engineering (SVNE), A. Rangampeta have attended the National Atmospheric Research Laboratory (NARL) for the purpose of project work during the period from 27.01.2014 to 03.03.2014.

1. M.Kushal Kumar - 10121A0468
2. G.M. Yamuna - 10121A0429
3. B. Praveen Kumar - 10121A0410
4. B. Dheeyanka Priya - 10121A0418

(Y. Bhavani Kumar)

Dr. Y. BHAVANI KUMAR
Scientist / Engineer-5
Project Leader, LIDAR Project
National Atmospheric Research Laboratory
Dept. of Space, Govt. of India
GADANKI-517 112, Chittoor (Dist.), A.P.

282

CERTIFICATE OF THE GUIDE

This is to certify that the project work titled "Micro controller based U/VHF interface unit between communication exchange and 3060 transceiver" is a Bonafide work of

R. Udaya Venkata Sai	(10121A0492)
S. Manideep Kumar	(10121A0497)
E. Subramanyam Reddy	(11125A0405)
Y. Sri Bhargav Reddy	(10121A04B7)

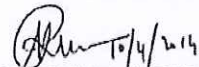
Carried out in a partial fulfillment for the award of degree of B.Tech (Project) of **ELECTRONICS & COMMUNICATION ENGINEERING** is a record of Bonafide piece of work, carried out by them under my supervision and guidance in the CNSG Department, ECIL.



Electronics Corporation of India Limited

A Govt. of India (Dept. of Atomic Energy) Enterprise

Project Incharge



(Dr. N. RAJENDRA KUMAR)
Dy. General Manager / MIS & CLC

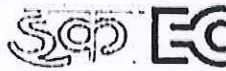
Dr. N. RAJENDRA KUMAR
Dy. General Manager / MIS & CLC
ECIL, Hyderabad

CERTIFICATE OF THE GUIDE

This is to certify that the project work titled "PORTAL MONITORING SYSTEM" is a Bonafide work of

- M. SWATHI (10121A0472)
- P. THEJAKIRAN (10121A0486)
- N. PRATHYUSHA (10121A0479)
- V. SREEKANTH (11125A0423)

Carried out in a partial fulfillment for the award of degree Of B.Tech (Project) of ELECTRONICS & COMMUNICATION ENGINEERING is a record of Bonafide piece of work, carried out by them under my supervision and guidance in the RID Department, ECIL.



Electronics Corporation of India Limited
A Govt. of India (Dept. of Atomic Energy) Enterprise

D. Manna
Project Guide
N.V.N. SRI DAKSHIN PRASANNA
 (ENGR)
N.V.N. SRI DAKSHIN PRASANNA
 असिस्टेंट इंजीनियर
 एन एन एन/आर आई सी / ई सी आई एन,
 HSE / RID / ECIL
 हैदराबाद/HYDERABAD-500 082.

G.V. Reddy
Project Incharge
G.V. REDDY
 (A.G.M, R.I.D, E.C.I.L.)

Place: Hyderabad.
Date: 03-03-2014



ELECTRONICS CORPORATION OF INDIA LIMITED
A Govt. of India (Department of Atomic Energy) Enterprise,
Communication Systems Group,
Hyderabad - 62.

CERTIFICATE

This is to certify that P. PARIMALA (10121A0487), K. GANGA NEERAJA (11125A0407), N. V. BHARGAV (10121A0476) and T. HIMATEJA (10121A04A7) students of fourth year engineering in electronics and communication engineering of **SREE VIDYANIKETHAN ENGINEERING COLLEGE** affiliated to **JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY** have completed the project work entitled "M7 DIGITAL MULTIMODE V/UHF TRANSCEIVER" in M7 section, Communications Division of Electronics Corporation Of India Limited. (i.e., from 08/02/2014 to 07/03/2014).

Project Guide

डी श्रीनिवास/D. SRINIVAS
सिनिअर प्रबन्धक/Senior Manager
सी एन डी, सी एन एस जी, ई सी आई एल,
CND, CNSG, ECIL
हैदराबाद/HYDERABAD-500 062

Project Incharge

डी. सुधानन्द
D. SUDHANAND
अ.म.प्र.एच प्रभारी, एमटीएस
AGM & I/c, MCS
सी एन एस जी, ई सी आई एल, हैदराबाद
CNSG ECIL, HYDERABAD-62

285



Electronics Corporation of India Limited


A Govt. of India (Dept. of Atomic Energy) Enterprise

Date: 17-03-2014.

Certificate

This is certify that the project work entitled “**VEHICLE MONITORING SYSTEM**” is a bonafide work done by the following students of SreeVidyanikethan Engineering College, A.Rangampeta, JNTU Anantapur, under my supervision and guidance in RID Department, ECIL for the partial fulfilment of the requirements for the award of “**Bachelor of Technology**” in “**Electronics and Communication Engineering**” during the period from 3rd February 2014 – 2nd March 2014.

SHAIK ALTAF AHMED	10121A04A1
MUKKA RAJA PHANEENDRA	11125A0413
MIRSHIKARI ASIF BASHA	11125A0411
MADDHIKA SREE TEJA	10121A0471


17/3/2014
SURJA SEKHAR MANDAL
इंजीनियर/ENGINEER
आर आर डी., ई सी आर एल/RID-ECIL,
हैदराबाद/HYDERABAD-500 062.

NOVEL REVERSIBLE CODE CONVERTERS USING REVERSIBLE LOGIC GATES

M. SARAVANAN¹, K. SURESH MANIC² & S. UMA³

¹Associate Professor, Department of EIE, Sree Vidyanikethan Engineering College, Tirupati, Andhra Pradesh, India

²School of Engineering, Taylors University, Subang Jaya, Selangor, Malaysia

³Research Scholar, University of Malaya, Kuala Lumpur, Malaysia

ABSTRACT

In this technological world development in the field of nanometre technology makes power consumption of logic gates as minimum as possible. Reversible logic design became the promising technologies gaining greater interest due to less dissipation of heat and low power consumption. In digital systems code conversion is a widely used process for reasons such as enhancing security of data, reducing the complexity of arithmetic operations and thereby reducing the hardware required, dropping the level of switching activity leading to more speed of operation and power saving etc. This paper proposes novel Reversible logic design for code conversion such as Binary to Gray code, Gray to Binary code, BCD to Excess 3 code, Excess 3 to BCD code.

KEYWORDS: Reversible Logic Gates, Reversible Code Converter, Quantum Computing, VLSI

INTRODUCTION

Everyone in the world of modern circuit design tries to reduce the power consumption by the circuit. As demonstrated by R.Landauer in the early 1960s, irreversible hardware computation, regardless of its realization technique, results in energy dissipation due to the information loss [1]. Also prove that Reversible logic circuits have theoretically zero internal power dissipation because they do not lose information. Hence, In 1973, Bennett showed that in order to avoid $KT \ln 2$ joules of energy dissipation in a circuit, it must be built using reversible logic gates [2]. A circuit is said to be reversible if the input vector can be uniquely recovered from the output vector and there is a one-to-one correspondence between its input and output assignments, i.e. not only the outputs can be uniquely determined from the inputs, but also the inputs can be recovered from the outputs [4-6]. This paper presents design of reversible code converters includes reversible binary to gray code converter, reversible gray to binary converter, reversible BCD to excess 3 code converter, reversible excess3 to BCD code converter. The paper is organized as follows section II presents the literature survey on reversible logic gates, section III presents the design of proposed reversible code converters circuits, section IV presents the Result analysis of the proposed methods, section V presents the conclusion and future work.

LITRETURE SURVEY

This section introduces the basics of reversible logic gates and various reversible logic gate proposed. Reversible logic has received significant attention in recent years. It has applications in various research areas such as low power CMOS design, optical computing, quantum computing, bioinformatics, thermodynamic technology, DNA computing and nanotechnology.

It is not possible to construct quantum circuits without reversible logic gates. Synthesis of reversible logic circuits is significantly more complicated than traditional irreversible logic circuits because in a reversible logic circuit, we are not allowed to use fan-out and feedback [4].

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CHALLENGES IN MINIMISING ENERGY CONSUMPTION FOR WIRELESS SENSOR NETWORKS

¹SUDHEER PEMBUSANI, ²ABHISHEK GUDIPALLI, ³SARAVANAN MAHADEVAN

¹Sreenivasa Institute of Technology and Management Studies, Chittoor, Andhra Pradesh, India.

²School of Electrical Engineering, VIT University, Vellore – 632014, India.

³Sree Vidyanikethan Engineering College, Tirupati – 517507, India

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ABSTRACT

Wireless sensor networks is one of the active research area now a days due to its vast applications in different fields such as defence , civilian and medical fields. One of the basic challenges in the design of Wireless Sensor Network (WSN) is maximizing their lifetime because of the sensors placement in remote places which is having batteries as power sources. To extend the WSN lifetime, energy management is the most important and critical aspect, for that we need different techniques in different aspects of WSN. This paper presents some methods which will be useful to minimize energy consumption in sensor networks and to increase lifetime of the WSN. Sensor nodes are using batteries as their power sources, effective and efficient utilization of these power sources is essential in order to use sensor networks for longer period hence it is required to reduce data transfer rate inside sensor networks, reduce amount of data that required to send to base station. For this, data aggregation methods are useful for aggregating data in an effective energy efficient manner so that network lifetime will enhance. In most applications once WSN deployed, it should continue to work for a long period of time, without the maintenance of the nodes and the replacement of their energy sources. Each sensor node in the network consumes power in different stages like sensing data, processing data and transmitting/receiving. In all stages minimizing energy consumption is required. Therefore routing protocols designed which should minimize power consumption in every stage of WSN because of its effective function.

Keywords: *Wireless Sensor Networks, Data Aggregation, Routing Protocols, ESPDA Protocol, Energy Consumption*

1. INTRODUCTION

Sensor is a device which senses and converts one form of energy into another form like mechanical, electrical or any other form. Sensor network is a combination of same or different sensors. Wireless sensor network is one type of network which is having number of sensors to sense the physical information and transfers that to the different locations by using network. In advanced wireless networks, sensors works in both direction to get the data.

Wireless Sensor networks are a network of Sensor nodes ranging from single to many that is upto thousands and each node is connected to more number of sensors as shown in Figure 1. The base stations are having number of components of the Wireless Sensor Network (WSN) with more computational, and communication resources. This stations acts like a gateway between sensory nodes and the user.

They typically forward data from the WSN to a server as shown in Figure 2. another special and attractive components in routing base networks are routers, which are designed to compute, and distribute the routing tables.

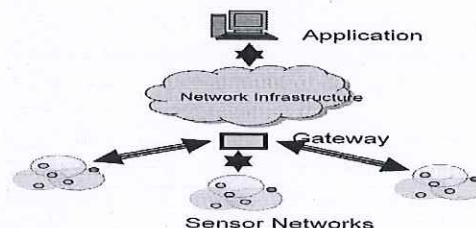


Figure 1: Overview Of Wireless Sensor Networks

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Tuning of Analog Controllers for Superheated Steam Temperature System using Simulated Annealing Algorithm

A. Yasmine Begum^{1*} and G.V. Marutheswar²

¹Dept. of EIE, Sree Vidyanikethan Engineering College, Tirupati - 517501

²Dept. of EEE, S.V. University, Tirupati - 517501

*Email: yasmineanwaraly@yahoo.com

Abstract : This paper explains the tuning of Proportional Integral controller (PI) for Superheated Steam Temperature System using Simulated Annealing Algorithm (SA) based on Integral Square Error (ISE) as the objective function. The analog controllers have a wide range of applications in Industrial Automation and Control. The controller parameters need to be tuned well to achieve desired response. The fifth order model of Superheated Steam Temperature System is taken for study. Most of the tuning algorithms are based on First Order plus Time Delay models which is given by $G(s) = Ke^{-\tau s}/(Ts+1)$. If the plant is not approximated well to FOPTD model, good controllers may not be designed using existing algorithms. SA is a numerical optimization technique based on the principles of thermodynamics. To tune the PI controller using SA, it does not require any FOPTD model. Hence the analog PI controller is tuned using SA algorithm for superheated steam temperature system and the Integral Square Error is compared with the PI controller tuned using Genetic Algorithm (GA) for Servo and Regulatory problem

Keywords : First Order Plus Time Delay (FOPTD), Proportional Integral Controller (PI), Integral Square Error (ISE), Genetic Algorithm (GA), Simulated Annealing (SA).

INTRODUCTION

The analog controllers have a wide spectrum of applications in industrial automation and control. The choice of analog controllers depends upon the model of the process to be controlled. Tuning is adjustment of controller parameters to achieve desired response. The controller parameters selection is essentially an optimization problem in which the designer of the control system tries to satisfy some optimal criterion, the result of which is often referred to as good control. The important criterion for good control is that the step response of the system should have minimum overshoot, one quarter-decay ratio, less oscillations, minimum rise time, and minimum settling time. The boiler has many variables to be precisely controlled for efficiency and safety. Among those variables, superheated steam temperature is one of the most important variables. The fifth order model of superheated steam temperature system is used for study[4,7].

Most operators know that they want in the form of a response to achieve a change in set point or load. To compare different responses that use different sets of controller parameters, a criterion that reduces the entire response to a single number, or a figure of merit is desirable. There are three such criteria.

They are IAE, ISE and ITAE. Each of the three criteria

has different purposes. The ISE will penalize large errors because the error is squared[4].

In boiler, superheated steam temperature is one of the important variables to be controlled precisely for efficiency and safety. Hence control of this parameter has assumed paramount importance in boiler controls. Fifth order transfer function model of superheated steam temperature system is used for this study and is given below [4,7].

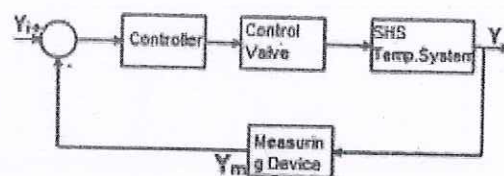


Fig. 1 : Block diagram of SHS Temperature Control System

The Transfer function of superheated steam temperature system,

$$G_p(s) = \frac{1.3882}{(19s+1)^5} \tag{1}$$

The Transfer function of control valve,

$$G_v(s) = 0.557$$

2013

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18-11-2013

Ref: SVEC/EIE/20/2013-2014

Dr. P.C. Krishnamachary M.E., Ph.D.,
PRINCIPAL

To
The Director Works
Bharathi Cement Corporation Pvt. Ltd.
Kamalapuram Mandal
Kadapa
Pin: 516289

Sir,

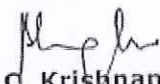
Sub: Request - Industrial visit for IV B.Tech. Students - Reg.

Sree Vidyanikethan Engineering College was established in 1996 by Sree Vidyanikethan Educational Trust. The college was conferred Autonomy by UGC from the academic year 2010-2011. The college has been accredited by NACC with "A" Grade.

We wish to send our IV B.Tech. Students of Electronics and Instrumentation Engineering branch to visit your esteemed organization as part of Industrial Visit. They are Sixty Five in strength. Two faculty members will accompany with them. We would be grateful to you if you accord the requisite permission to visit your organization.

Thanking You,

Yours Sincerely,


(Dr. P.C. Krishnamachary)

Cc: Head (EIE)



HOD EIE

SATISH DHAWAN SPACE CENTRE SHAR

P. Viswanadha Sarma
Deputy Head, P & PO
Satish Dhawan Space Centre SHAR,
SRIHARIKOTA - 524 124

Telephone: 08623-226094
08623-226136
FAX: 08623-225056
E-mail: ppo@shar.gov.in

SHAR/P&PO/visits/ 2013

DT. 19.11.2013

Sir,

Sub: Permission for Visiting SDSC SHAR Facilities - Regarding.

This has reference to your email/letter dated. 18.11.2013 on the above subject. In this regard, kindly note that you may visit the Centre as per the date and time given below:

- * Date of Visit : 22.11.2013(Friday)
- * Reporting time : 09.30 AM
- * No. of persons permitted : 65 (4th Year EIE Students, Staff + Bus crew)

Please note the following:

1. All the visitors permitted need to show Identity Proof.
2. Due to security reasons, bags/baggage's/cell phones/cameras/any other electronic gadgets are not permitted. Hence, please do not bring them.
3. If you are planning to bring your food, we cannot permit the vessels inside the Range. While you go to see the Technical Facilities, kindly see that the food containers are unloaded at Library Complex and keep a person to take care of them.
4. We have very limited private catering services, and hence, you may book your lunch in advance with Hostel Canteen (Phone No.08623 222723 / 09704993450 /09550578758). If they regret to book due to excess demand, you may depend on the hotels at Sullurupeta (nearest town), through which you reach this place.
5. Kindly confirm your programme by FAX(08623-225056). Also send one copy of the list of all the visiting members (including the bus crew), giving their names, father's name, age, contact address etc., either by e-mail or by FAX. You are also requested to give the name and contact Cell number of the visit coordinator from your side, for communicating any message, if required.
6. If no confirmation is received (along with the visitors' list) from your side on or before November 21st, 2013, we presume that you have dropped your programme.
7. Please go through the General Guidelines printed over-leaf.

Should you need any further information/help, please do not hesitate to write/contact us.

Wishing you a happy visit.

Yours faithfully,

(P. VISWANADHA SARMA)

To
Principal
Sree Vidyanikethan Engineering College
Sree Sainath Nagar, Tirupathi - 517 102
Email: svecp@vidyanikethan.org



SATISH DHAWAN SPACE CENTRE SHAR

P.Viswanadha Sarma
Head, PO & SM
Satish Dhawan Space Centre SHAR
SRIHARIKOTA - 524 124

Telephone: 08623-225183
08623-226136
FAX: 08623-225056
E-mail: ppo@shar.gov.in

SHAR/PO&SM/visits/2016

Sir,

Sub: Permission for Visiting SDSC SHAR Facilities - Regarding.

This has reference to your email/letter dated on 28.09.2016 the above subject. In this regard, kindly note that you may visit the Centre as per the date and time given below:

- * Date of Visit : 27.10.2016 (Thursday)
- * Reporting time : 09:00 Hrs
- * No. of persons permitted : 60 (including staff and Bus Crew)

Please note the following:

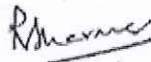
1. All the visitors permitted need to show Identity Proof.
2. Kindly confirm your programme by FAX (08623-225056). Also send one copy of the list of all the visiting members (including the bus crew), giving their names, father's name, age, contact address etc., either by e-mail or by FAX. You are also requested to give the name and contact Cell number of the visit coordinator from your side, for communicating any message, if required.
3. Due to security reasons, bags/baggage's/cell phones/cameras/any other electronic gadgets are not permitted. Hence, please do not bring them.
4. If you are planning to bring your food, we cannot permit the vessels inside the Range. While you go to see the Technical Facilities, kindly see that the food containers are unloaded at Library Complex and keep a person to take care of them.
5. We have very limited private catering services, and hence, you may book your lunch in advance with Hostel Canteen (Phone No. G Srikanth 09515964726 / K Ravikumar 09985170256). If they regret to book due to excess demand, you may depend on the hotels at Sullurupeta (nearest town), through which you reach this place.
6. If no confirmation is received (along with the visitor's list) from your side on or before 26.10.2016 we presume that you have dropped your programme.
7. Please go through the General Guidelines printed over-leaf.

Should you need any further information/help, please do not hesitate to write/contact us.
Wishing you a happy visit.

Yours faithfully,

To

The Principal
SREE Vidyanikethan,
Sree Sainath Nagar, Tirupati
8772236711


(P.Viswanadha Sarma)
Head PO & SM

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Ref: SVEC/EIE/20/2016-17

Dr. P.C. Krishnamachary M.E., Ph.D.,
PRINCIPAL

To
Deputy Head, LDF/P&PO,
SDSC,
Sriharikota,
Nellore Dt.

Sir,

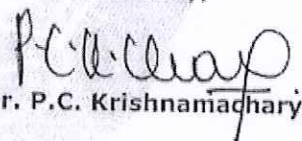
Sub: Industrial Tour for III B.Tech. Students - Request - Req.

Sree Vidyanikethan Engineering College was established in 1996 by Sree Vidyanikethan Educational Trust. It is affiliated to Jawaharlal Nehru Technological University, Anantapur.

We wish to send our III B.Tech. Students of Electronics and Instrumentation Engineering branch to visit your esteemed organization as part of Industrial Visit. They are Fifty-five in strength. One faculty member will accompany them. We would be grateful to you if you accord the requisite permission to visit your organization in the 1st week of November, 2016.

Thanking You,

Yours Truly,


(Dr. P.C. Krishnamachary)

Cc: Head (EIE)



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Industrial Visit



SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Sree Sainath Nagar, A.Rangampet - 517102

Department of Electronics and Instrumentation Engineering

Industrial visit to Bharathi Cement Corporation Pvt. Ltd.

(21st November 2013)

Under

Technical Education Quality Improvement Programme (TEQIP-II)

Attendance

S.No.	Roll Number	Name of the Student	Signature
1.	10121A1001	Arief	Arief
2.	10121A1004	SwarnaMadhuri	A. Swarna
3.	10121A1006	Rajeswari	A. Rajeswari
4.	10121A1007	Sukanya	Sukanya
5.	10121A1009	Keerthana	Keerthana
6.	10121A1010	Mallika	B.N Mallika
7.	10121A1011	Soomya	B. Soomya
8.	10121A1014	Swathi	Swathi
9.	10121A1013	Chaitanya	B. Chaitanya
10.	10121A1016	Harini	B. Harini
11.	10121A1017	Hanetha	B. Hanetha
12.	10121A1018	Basha	Basha
13.	10121A1019	Bharath	Bharath
14.	10121A1020	Gopinath	C. Gopinath
15.	10121A1021	Charan	Charan
16.	10121A1022		

17.	10121A1025	Pratap	Pratap
18.	10121A1026	Kishore	Kishore
19.	10121A1027	Sai Pavan	Sai Pavan
20.	10121A1028	G. Divya	G. Divya
21.	10121A1029	Swetha	G. Swetha
22.	10121A1031	Naveen	Naveen
23.	10121A1032	Charitha	Charitha
24.	10121A1033	Naga Chaitanya	Naga Chaitanya
25.	10121A1035	Mounika	G. Mounika
26.	10121A1036	Neeraja	H. Neeraja
27.	10121A1040	Arishikesh	Arishikesh
28.	10121A1041	Konjeti Rayulu	K. Rayulu
29.	10121A1042	Priyanka	K.M. Priyanka
30.	10121A1043	Nanda	K. Nanda
31.	10121A1044	Manogna	d. Manogna
32.	10121A1045	Leelavathi	K. Leelavathi
33.	10121A1046	Harish	Harish
34.	10121A1050	Saileela	K. Saileela
35.	10121A1051	Sai Divya	Sai Divya
36.	10121A1052	Sowjanya	K. Sowjanya
37.	10121A1054	Lokesh	K. Lokesh
38.	10121A1057	L.C. Pavan	Pavan
39.	10121A1058	Himaja	K. Himaja
40.	10121A1060	Damini	Damini
41.	10121A1063	Gayathri	Gayathri
42.	10121A1065	Poorna	M. Poorna

To
Smt. N.Padmaja
DEPARTMENT OF ELECTRONIC AND COMMUNICATIONS ENGINEERING
Chadalawada Nagar, Renigunta Road,
TIRUPATI - 517506 ,CHITTOOR(Dist)
ANDHRA PRADESH, INDIA

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Sub: Invitation for Technical Session Chair cum Keynote Speaker

Dear Smt. N.Padmaja,

We are pleased to inform you that IRD India (www.irdindia.in), is going to organize an International Conference on dated 14.10.2012 at Tirupati the name of the conference is "International Conference on Electrical, Electronics and Computer Science(ICEECS)" http://irdindia.in/ICEECS_Tirupati/Home.html.

Being a pioneer in promoting Education and Research through your Academic Leadership we request you to be the Technical Session Chair cum Keynote Speaker.

Also I request you to circulate this conference information among the faculty members of your Esteemed College. Come, Participate and join professional forums of India.

A line in acceptance and a cordial response will be highly appreciated.

With Warm Regards

Mr. Bibhu Prasad Mohanty

Director, IRD India
Email: director.irdindia@gmail.com
Mob: +91-8895995279

11/7/2017

Gmail - Invitation for IRD Mentor and Programme Committee Member of IRD Upcoming Conferences.

Also I request you to circulate this information about IRD india among the faculty members of your Esteemed College. Come, Participate and join professional forums of India.

A line in acceptance and a cordial response will be highly appreciated.

With Thanks

Mr. Bibhu Prasad Mohanty

Director, IRD India
Email: director.irdindia@gmail.com
Mob: +91-8895995279

On Tue, Oct 9, 2012 at 1:49 PM, padma choda <padmaja202@gmail.com> wrote:

Sir,

I am thankful for your invitation to act as session chair and keynote speaker for the International Conference on Electrical, Electronics and Computer Science(ICEECS)" . I am pleased to accept your invitation and shall give my presence.

Further, I request you to provide me a declaration in view of my presence.

--
With thanks and regards,
Prof.N.Padmaja
HOD-ECE
Chadalawada Ramanamma Engg College
Tirupati

--
With Regards
Bibhu Prasad Mohanty
Director Institute for Research and Development India
Mob:08895995279
website:www.irdindia.in

11/7/2017

Gmail - Invitation for IRD Mentor and Programme Committee Member of IRD Upcoming Conferences.



297
padma choda <padmaja202@gmail.com>

Invitation for IRD Mentor and Programme Committee Member of IRD Upcoming Conferences.

Bibhu Prasad Mohanty <director.irdindia@gmail.com>
To: padma choda <padmaja202@gmail.com>

Thu, Dec 19, 2013 at 5:14 PM

To

Dear Smt. N.Padmaja

DEPARTMENT OF ELECTRONIC AND COMMUNICATIONS ENGINEERING

Chadalawada Nagar, Renigunta Road,

TIRUPATI - 517506 ,CHITTOOR(Dist)

ANDHRA PRADESH, INDIA

Sub: Invitation for IRD Mentor and Programme Committee Member of IRD Upcoming Conferences.

Dear Professor,

Greetings from Institute for Research and Development India, Odisha.

About IRD India:

The Institute for Research and Development India (IRD India) is an ISO 9001:2008 certified independent, private non-profit scientific association of distinguished scholars engaged in Computer Science, Information Technology, Electronics, Mechanical, Electrical, Communication and Management. The IRD India members include faculties, deans, department heads, professors, research scientists, engineers, scholars, experienced software development directors, managers and engineers, university postgraduate and undergraduate engineering and technology students, etc. The mission of IRD India is to foster and conduct collaborative interdisciplinary research in state-of-the-art methodologies and technologies within its areas of expertise.

Best Paper Award:

In order to seed and experience the joy of research and innovation, every conference by IRD India is being identified for the IRD Scholar Award. The Technical session Chair of the conference will select the IRD Scholar Award by following criteria's: Quality of the Paper, Presentation style, PPT, Question and answer etc. Out of all tracks two Best paper awards is given to the scholar with Certificate and Memento

IRD India till now organised 87 International conferences, 10 Workshops and 2 Science Exhibitions in various places of India.

We are privileged to invite you as Mentor of IRD India/programme committee member/ Programme chair / Keynote speaker of IRD upcoming conferences.

Being a pioneer in promoting Education and Research through your Academic Leadership we request you to be the Technical Session Chair cum Keynote Speaker.

Retrieval of Temperature Profiles from the MST Radar Backscattered Signal Using Wavelet Decomposition

D. Leela Rani, M. Sadasiva, and S. Varadarajan

*Department of Electronics and Communication Engineering,
Sri Vidyaniketan College of Engineering, Tirupati – 517102*

Abstract - The vertical profile of temperature for troposphere and lower stratosphere is derived from the backscattered signal received by Indian MST radar located at Gadanki (13.5°N, 79.2° E). The time series data obtained from MST radar is subjected to Wavelet decomposition. Wavelet decomposition helps in improving and deriving the temperature profiles even at severe weather conditions with low SNR. After decomposition, the temporal spectra of vertical wind are derived and the Brunt-Vaisala frequencies are identified. From the measured Brunt-Vaisala frequencies, temperature profile is obtained following Revathy et al. (1996).

The temperature profiles depend on the accuracy of the Doppler profiles. Under stable atmospheric conditions Dopplers can be obtained without much difficulty. If the atmospheric conditions are unstable and large horizontal winds ($\geq 40\text{m/s}$) exist- affects the temporal spectrum of vertical wind velocity, then deriving dopplers become difficult. Revathy et al. (1996) have reported in their paper that their algorithm is not applicable under unstable atmospheric conditions. To overcome the above limitations algorithm based on Wavelet decomposition technique is proposed. Better Doppler profiles are obtained even under severe weather conditions. Better temperature profiles are obtained. The derived temperature profile is compared with temperature profiles of simultaneously launched radiosonde flights at radar site and signal obtained from MST data without applying Wavelet decomposition i.e., noisy signal obtained from MST data.

Keywords: Vertical temperature profile, MST Radar, Backscattered signal, Wavelet decomposition.

INTRODUCTION

The variation of atmospheric temperature with altitude plays a very important role in the studies of atmospheric stability and turbulence structures. Gage and Green [1] presented a technique for estimating temperature from vertically looking VHF radar data. Rottger [2] obtained temperature profile using MST Radar data for lower

atmosphere, which provides high altitude resolution data of vertical winds on a continuous basis in troposphere and lower stratosphere. This method derives temperature profiles by identifying Brunt-Vaisala frequency in the spectra of vertical wind velocity oscillations. Following this, Revathy et al [3] had derived temperature profile from the observed BV frequency.

In the present paper, the temperature profile is obtained by first subjecting the time series data obtained from MST radar to wavelet decomposition. On performing FFT, temporal spectra of vertical wind are derived from the decomposed signal. From the obtained temporal spectra, the Brunt-Vaisala frequencies are identified. Finally the temperature profile is derived from the altitude profile of B-V frequency.

MST RADAR SYSTEM AND DATA BASE

The Indian mesosphere-stratosphere- Troposphere (MST) radar at Gadanki (13.47°N, 79.2°E) is a high power, highly sensitive, pulse coded, coherent VHF phased array radar operating at 53 MHz with a peak power aperture of $3 \times 10^{10} \text{wm}^2$ and average power aperture of $7 \times 10^8 \text{wm}^2$. The vertical resolution is 150m. It provides backscatter signals with good SNR from an altitude of 3.75km to altitudes ranging from 25 to 31 km, in the vertical mode. Rao et al [4] have described in detail the Indian MST radar system. The Indian MST radar is operated close to the radiosonde launch time from Chennai (13.1°N, 80.2°E) in a standard mode called common mode observation (CMO). The CMO is aimed at generating a long-term database for various scientific studies. Chennai is the nearest radiosonde observing station of Indian Meteorology Department (IMD). These radiosonde observations are used to validate the temperature profile obtained from MST radar data.

IWAVELET DECOMPOSITION

MST Radar data is non-stationary data wavelet analysis deals with such stationary data. The temperature profiles can be best derived if such nonstationary MST data undergoes wavelet decomposition [5] before deriving the temporal spectra of vertical wind. Wavelet decomposition is

HIGH SPEED CARRY SAVE MULTIPLIER BASED LINEAR CONVOLUTION USING VEDIC MATHAMATICS

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ABSTRACT

VLSI applications include Digital Signal Processing, Digital control systems, Telecommunications, Speech and Audio processing for audiology and speech language pathology. The latest research in VLSI is the design and implementation of DSP systems which are essential for above applications. The fundamental computation in DSP Systems is convolution. Convolution and LTI systems are the heart and soul of DSP. The behavior of LTI systems in continuous time is described by Convolution integral whereas the behavior in discrete time is described by Linear convolution. In this paper, Linear convolution is performed using carry save multiplier architecture based on vertical and cross wise algorithm of Urdhva - Tiryagbhyam in Vedic mathematics. Coding is done using Verilog HDL (verilog Hardware Description Language). Simulation and Synthesis are performed using Xilinx FPGA.

Key words: Linear convolution, Urdhva - Tiryagbhyam, carry save multiplier, Verilog HDL.

1 INTRODUCTION

In this paper, carry save multiplier architecture is developed using Urdhva-Tiryagbhyam sutra. This sutra is applied to perform multiplication of size NXN.

Linear convolution which is a fundamental computation in Linear time-invariant (LTI) systems is implemented using Verilog HDL. Simulation and Synthesis are verified in Xilinx 10.1 ISE.

In general, multiplications are complex and slow in operation. The overall speed in multiplication depends on number of partial products generated, shifting the partial products based on bit position and summation of partial products. In carry save multiplier, the carry bits are passed diagonally downwards, which requires a vector merging

adder to obtain final sum of all the partial products[1]. In convolution, fundamental computations includes

multiplication and addition of input and impulse signals or samples[2].

2 CONVOLUTION

Linear and time-invariant systems are an important class of systems and has significant signal processing applications.

These systems obey linearity and time-invariance properties[3,4].

A linear time invariant (LTI) system is completely characterized by its impulse. The impulse response is response of a system to impulse signal or sequence.

In continuous time, the linear time invariant system with input signal $x(t)$, output signal $y(t)$ and impulse response $h(t)$ are related by convolution integral.

$$y(t) = x(t) * h(t) = \int_{-\infty}^{\infty} x(t - \tau)h(\tau)d\tau$$
$$= \int_{-\infty}^{\infty} x(\tau)h(t - \tau)d\tau$$

(1)

$h(t)$ is the system's response to impulse $\delta(t)$.

$y(t)$ is therefore proportional to weighted average of input function $x(t)$. In general, every value of output depend on every value of input.

In discrete time, the output sequence $y[n]$ of a linear time invariant system, with impulse response $h[n]$ due to any input sequence $x[n]$ is the convolution sum of $x[n]$ with $h[n]$ and is given as

$$y[n] = x[n] * h[n] = \sum_{-\infty}^{\infty} x[k]h[n - k]$$

(2)

$h[n]$ is the response of the system to impulse sequence, $\delta[n]$.

To implement discrete time convolution, the two sequence $x[k]$ and $h[n-k]$ are multiplied together for $-\infty < k < \infty$ and the products are summed to



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Challenges in Image Mining and Related Issues

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Abstract: Literature review on Image mining (IM) revealed that the research is still in infant stage and considerable work is yet to be carried out to bring the same at par with the status of data mining (DM). Much of research on IM hinges around on creating data base collected from processed images and discrete references are found in literature on extracting useful and meaningful information from the database. This is the main challenge faced in the area of IM. The main reason for this set back is that there is lack of identifying research issues involved in IM, namely IM does not mean simple extension of data mining applications applied to the data obtained from raw images. Hence an attempt is made in this paper to identify the various research issues related to IM and to study the technologies involved as on date. A few algorithms are reported in literature for Image segmentation (IS) image enhancement (IE) image detection (ID), Image classification (IC) etc. Since there is vast scope for application of IM in medical field, a raw image in the medical field is chosen and the proposed image processing techniques are applied for the same to mine new and valuable hidden knowledge in the images. The major contribution of the present work will be to identify the various issues and challenges related to IM and extracting useful and meaningful information.

Keywords: Image mining (IM), Image segmentation (IS), Image Detection (ID), Hidden knowledge, Genetic Algorithms (GA).

Discriminating DDoS Attack traffic from Flash Crowds on Internet Threat Monitors (ITM) Using Entropy variations

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ABSTRACT

Internet threat Monitoring (ITM) is a monitoring system in the internet to detect, measure, characterize and track the security attacks against attack sources. Distributed Denial of Service (DDoS) is a serious threat to the internet. Attacker uses botnets to launch DDoS attack by sending malicious traffic and the goal is to exhaust ITM network resources such as utilization of network bandwidth, computing power of victim system, data structures used in victim operating systems. The attacker or the botmasters attempt to disable the ITMs by sending the traffic in flash crowd pattern. The Flash Crowd flows are from legitimate users and they are absolutely normal requests, the generated results are similar to the effect of DDoS attacks. Hence, it is important to distinguish DDoS attack flows from flash crowd flows in the internet traffic, for those who defend against DDoS attacks. Based on this, we used a discrimination algorithm based on entropy variations as a similarity metric among suspicious flows. We formulated the problem in the internet with botnets, and presented theoretical proofs for the feasibility of the proposed discrimination method.

Keywords- Internet Threat Monitors (ITM), DDoS, Flash crowd attack, Botnet, Entropy and Entropy variations.

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1. INTRODUCTION

Internet plays a critical role throughout the world in terms of communication by exchanging the information through the public channels. Communication through the public channels fails to provide authentication and security of the users being used. The lack of authentication provides an opportunity to the attacker to launch malicious traffic with a fake identity. The denial of service (DoS) attack is one of the explicit attacks made by attacker to prevent the information service or resources being used by legitimate users. These attacks exhaust typical network resources such as usage of network bandwidth, victim system computing power, and data structures used in operating system of the victim. Flooding attack, Flash crowd attack and Teardrop attack are the familiar types of DoS attacks. Distributed denial of service (DDoS) attack is a form of DoS attack launched explicitly from a collection of compromised systems known as botnet by an attacker. The DoS or DDoS attacks are targeted to the financial organizations (banks, credit-card payment gateways), high profile organizations such as government organizations and corporate industries.

The most popular and dangerous form of DDoS attack in the internet is flash crowd which targets the applications or services offered by the server to the users. Unlike normal DDoS attacks these flash crowd attacks are implemented with genuine requests made by the users to the popular websites [7]. The intension of the attacker is to slow down the performance and even shut down the particular service or application offered by the server by overloading it with huge number of legitimate requests.

With respect to the traffic behavior the Flash crowds and DDoS attacks are similar but they behave typically with respect to the access intents, distribution of source IP address and speed of the increased and decreased traffic.

(a) **Access intents:** Flash crowds are the results of the legitimate users respond to special events such as breaking news or popular products (movies, music and software) release. Every user is trying to get the information from the web server successfully, but this causes the server to slow down its performance or sometimes even shut down. However, DDoS attacks are not the special events and are launched by an attacker with the aim that, to block the resources or server being used by the legitimate users.

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CE-44

Mobility scenario-based Performance Evaluation of Preemptive DSR Protocol for MANET

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Abstract--Ad hoc wireless networks are characterized by multi-hop wireless connectivity, infrastructure less environment and frequently changing topology. To analyze the performance of routing protocols in MANETs in the real world, a scenario based simulation analysis is required since there is a lack of necessary infrastructure for their deployment. Most of the earlier work done in this field have assumed the Random Waypoint model, which fails to capture the realistic movement of the nodes. In this paper, we describe a set of experiments conducted to analyze the performance of the Preemptive DSR routing protocol in a battlefield scenario. BonnMotion Software(Java based) is used to create and analyses mobility scenarios. Initially an explanation of the experimental metrics and the setup is described, followed by the scenarios used for our simulations. The results give an idea of how the Preemptive DSR protocol behaves in the given scenario and helps identify the metrics for optimal performance of the protocol.

Key-Words:- MANET, PDSR, battlefield scenario, Packet Delivery Ratio, delay.

1. Introduction

A mobile ad-hoc network (MANET) is a self configuring network of mobile nodes connected by wireless links, the union of which forms an arbitrary topology. The nodes are free to move randomly and organize themselves arbitrarily; thus, the network's wireless topology changes rapidly and unpredictably.

Proactive MANET protocols are table driven and will actively determine the layout of the network. Through a regular exchange of packets meant for network topology between the nodes of the network, a complete picture of the network is maintained at every node. Hence there is minimal delay in determining the route to be taken.

Reactive MANET protocols only find a route to the destination node when there is a need to send data. The source node will start by transmitting route requests throughout the network. The sender will then wait for the destination node or an intermediate node (that has a route to the destination) to respond with a list of intermediate nodes between the source and the destination. This is known as the global flood search, that in turn brings about a significant delay before the packet is transmitted. Since each of the proactive and reactive routing protocols suits well in oppositely different scenarios, there is good reason to develop hybrid routing protocol that is a mix of both proactive and reactive routing protocols. The hybrid protocol is

applied to find a balance between the proactive and the reactive protocols.[1][2][23]

In ad-hoc networks, two nodes communicate with each other in a peer-to-peer fashion. The routes has multiple hops, and hence are called multi-hop networks. Each node can able to communicate with the adjacent nodes in its range, and for those which are beyond its range, the node takes the help of other intermediate nodes to relay its messages. That is, each node acts as a router to forward messages. However, node mobility may cause links to be broken frequently, and how to select reliable paths becomes one critical issue for routing. Hence, using stable links is crucial for establishing reliable communication paths between mobile nodes. The routing protocol must react promptly to recover from link and node failures and to take advantage of new links. For these reasons, existing routing protocols designed for fixed networks are unsuitable, and routing in MANET is a major issue.[25]

2. Dynamic Source Routing Protocol

The Dynamic Source Routing (DSR) protocol is a simple and efficient routing protocol designed specifically for use in multi-hop wireless ad hoc networks of mobile nodes[8]. The DSR protocol allows source nodes to dynamically finds a route to any destination node in the ad hoc network. Each data packet sent has in its header the complete ordered list of

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CSE-45



Detection of Spam messages and Spam zombies in the Internet using Naïve Bayesian and SPRT

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Abstract: Security attacks are one of the major threats on the Internet. The attacker uses the compromised systems or bots to launch various security attacks such as spamming and spreading malware, DDoS, and identity theft. Spamming refers the generation of huge volume of messages from the unauthorized persons in the internet by using the Bots. Identification of spam messages increases the performance of the server and detection of the spam source or spam zombies blocks the compromised systems in the internet from being transformed the spam messages permanently. In this paper we proposed Naive Bayesian approach of the content based method for detecting the spam messages and used SPRT algorithm for identifying the compromised systems in the internet. We compared the results of our approach with existing key word based method and proved that the detection accuracy of spam messages with proposed method improves the detection accuracy of Compromised systems in the internet.

Keywords: Security attacks. Spam zombies, keyword based method, Naïve Bayesian approach.

I. Introduction

In today's computing world, internet plays an important role in our daily lives in almost every aspect. It is the place where we do lot of things just sitting at one place. Internet not only influences the people to do positive works but also influences the people to trouble others by posing many attacks. These attacks are posed by the attackers directly or indirectly.

Attacks are generally of two types, one of them is automatic attacks and the other type is manual attacks. Most of the successful attacks are from the automated generated code injected by the attackers. These are very dangerous some of them are Dos, DDoS, E-mail Worms, Viruses, Worms, Trojan horses, phishing attacks etc..

Attackers control some machines to attack the target machine. These machines are called drones, zombies or compromised machines. Zombies search for the low level secured systems to infect them and can control them through their pre-defined commands to cause an (DDoS) attack. In spamming terminology those are called as spam zombies. It is given that spamming is the major security challenge in the email communication. Report of 2012 march says that more than 75% of all email traffic is occupied by the spam [10]. To detect these spam zombies is tough job for the system administrators.

Spamming is an important threat plaguing the internet from the past decades. More than 75% of traffic is spam and in that 0.4% was malicious [11]. It is done by controlling several hosts to send unwanted messages to some target machines. These compromised machines are called spam zombies. Normally spam is given as UBE/UCE i.e., Unsolicited Bulk or Commercial E-mail. Spam message is an unwanted message to the users because of these reasons. They occupy the network bandwidth, disk space, connection time, money. They could hide viruses inside spam message, can send pornography information and can tempt the users to send their money and the confidential details. E-mail spamming became the major platform for the attackers because of its unique behavior of low cost and high speed. It is given that spamming is the major resource for the attackers to get the incentives. They are earning around \$200 billion dollars per year. In other words it is the cheapest one to one means of communication available today. That is why spamming is attracting the most of the attackers day by day.

Spam filtering is a technique that classifies a message into two categories (good and spammed message). Filter can misclassify the message to generate false positives and false negatives. False positive is the misclassification of good message as a spam message and false negative is the misclassification of spam message as a good message. Effective spam filter aims to minimize the false positive percentage. There are many methods available to filter out the spam. Spam filter can detect the spam at 3 levels. Those are at Network level, user level and policy based technique.

Network level technique: It is very difficult and important to detect the spam at this level. The most important approaches are Domain verification and the Challenge Response Systems. The former technique uses to filter the messages by considering the sender, domain, route information obtained by the SMTP. Example is one cannot send the message to the incoming route in a network path. Whereas the later uses the technique that it probes the

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CSE-46

Multi-level and Multi-key Trust in PPDM

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Abstract— Privacy in data for data mining is ensured by many methods since decades. Data Transformation in the KDD process ensures transforming the data into cryptic codes and some abbreviated forms, yet the details of the data are guessable to the data miners. Perturbation theory comprises mathematical methods that are used to find an approximate solution to a problem which cannot be solved exactly, by starting from the exact solution of a related problem. Perturbation function causes a minor or major change in the result of the problem-solution scenario to get the expected yield mathematically. The concern over privacy of personal and sensitive information has led to the implementation of several techniques for hiding, obfuscating and encrypting sensitive information in databases. The requirement of preserving privacy as well as the usability of sensitive data has led to development of nearest neighborhood techniques. In this work we propose a method that expands the scope of perturbation in PPDM as multilevel and multikey trust in privacy preserving data mining. An analogical approach with measuring the identification attacks, diversity attacks and the problem is addresses the challenge by properly correlating perturbation across copies of different trust levels and keys that are pertaining to the sub domain contexts of the databases. Our proposed framework is architecturally robust and defends the attacks to achieve the privacy goal. Our framework supports data providers to deliver different forms of data with different privacy levels based on the market demand. Data owners can relax with the framework provided in this paper..

Index Terms—privacy preserving data mining, perturbation, multi-level trust, multi-key perturbation.

I. INTRODUCTION

DATA MINING is considered as one of the most important frontiers in database and information systems and promising interdisciplinary developments in Information Technology. Although data is being engineered by so many methods and techniques developed by peers and seers of the data mining community, for which data mining has been viewed as a threat to privacy because of the widespread proliferation of electronic data maintained by corporations. But for the data miners to work on the real data to protrude into and excavate valuable knowledge is indispensable. The data providers have enough resources to support data miners. Sophisticated and scalable algorithms have been developed to

work with variant categories of data such as media, data, text, and even as they are streamed, that the data understood as the detailed and reflects the profile of organizations.

II. WHAT IS PPDM?

Privacy in data for data mining is ensured by many methods since decades. Data Transformation in the KDD process ensures transforming the data into cryptic codes and some abbreviated forms, yet the details of the data are guessable to the data miners. Protecting privacy for the data which is believed to confidential such as individual data, has been a great challenge for the data miners during the KDD procedure.

A. Perturbation Theory

Perturbation theory comprises mathematical methods that are used to find an approximate solution to a problem which cannot be solved exactly, by starting from the exact solution of a related problem. Perturbation theory is applicable if the problem at hand can be formulated by adding a "small" term to the mathematical description of the exactly solvable problem. Perturbation theory is closely related to methods used in numerical analysis. The earliest use of what would now be called perturbation theory was to deal with the otherwise unsolvable mathematical problems of celestial mechanics: Newton's solution for the orbit of the Moon, which moves noticeably differently from a simple Keplerian ellipse because of the competing gravitation of the Earth and the Sun. Perturbation methods start with a simplified form of the original problem, which is simple enough to be solved exactly. In celestial mechanics, this is usually a Keplerian ellipse. Under non relativistic gravity, an ellipse is exactly correct when there are only two gravitating bodies (say, the Earth and the Moon) but not quite correct when there are three or more objects (say, the Earth, Moon, Sun, and the rest of the solar system).

Perturbation theory leads to an expression for the desired solution in terms of a formal power series in some "small" parameter known as a perturbation series that quantifies the deviation from the exactly solvable problem. The leading term in this power series is the solution of the exactly solvable problem, while further terms describe the deviation in the solution, due to the deviation from the initial problem.

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This is to certify that the project work titled "Writing Device Drivers For Keypad, LCD and Serial Port to Renesas Microcontroller" is a Bonafide work of

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for the partial fulfillment of the requirement for the award of degree of **Bachelor of Technology in Electronics and Communication Engineering, SREE VIDYANIKETHAN ENGINEERING COLLEGE(AUTONOMOUS)**, is a record of bonafide work carried out by her under my guidance from January 2014 to March 2014.

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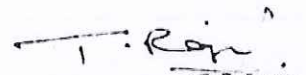
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13.3.2014

T.RAJENDRA PRASAD

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CERTIFICATE

This is to certify that the project work titled "GAMMA ZONE MONITOR" is a Bonafide work of

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Carried out in a partial fulfillment for the award of degree Of B.Tech (Major Project) of ELECTRONICS & COMMUNICATIONENGINEERING is a record of Bonafide piece of work, carried out by them under our supervision and guidance in the RID Department, ECIL.

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Information Broacher and Poster for International conference

13 May 2013 at 10:20

SANJAY KHOBRAGADE <svk2305@gmail.com>
To: Anitha Vaddinuri <anithavr@gmail.com>

Dear Sir/ Madam

Dr. Babasaheb Ambedkar Technological University, Lonere is one and only one of its kind in the state of Maharashtra. Established in the year 1989 by Government of Maharashtra. Although relatively young University is making its mark in the field of Research and Technological services through its dedicated faculty and discipline students. The university offer UG, PG and Ph.D. programmes in various streams of Engineering and Technology.

Department of Electronics & Telecommunication Engineering is organizing International Conference on Information, Electrical and Electronics Engineering (IETE Cynosure 2013) during December 26-27, 2013. We would like to request you to contribute as a members of Committees.

P.S. Please find the draft copy of the conference brochure attached with this mail.

—
Prof. Sanjay Khobragade,
Assistant Professor,
Department Of Electronics And Telecommunication,
Dr. B. A. T. University,
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Design, Analysis and Study of 2x2 Rectangular Microstrip Antenna Array At 430 MHz for Wind Profiler RADAR”

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ABSTRACT

Wind profilers depend upon the scattering of electromagnetic energy by minor irregularities in the refractive index of air. The refractive index is a measure of the speed at which electromagnetic wave propagates through a medium. Atmosphere is the medium for wind profiling. Wind profiling radars operating in Doppler beam swinging mode needs to have large antenna array in order to have a narrow beam for wind direction accuracy. To meet the above requirement, in the present work an array with 4 elements configured in an 2X2 is designed. The antenna inserted is a co-axial probe (Probe feed) to the patch near its resonance in 'L' band is carried out. Principal plane 2-dimensional radiation patterns at 430MHz have been computed for single element and 2X2 linear array. The results of linearly polarized coaxial probe single element are generated using IE3D software. Using single element as basic building block, an 2X2 linear array was designed. In this paper Aluminum sheet is used as material for ground plate and patch, air is used as dielectric substrate. IE3D software is used to design and simulation of antenna array. The results obtained are presented succinctly. The inferences from the design of coaxial probe antenna are presented.

Keywords

Wind profile, Microstrip, Antenna Array, Dielectric, Patch, probe feed, IE3D.

1. INTRODUCTION

In the atmosphere, minor irregularities in the refractive index exist over a wide range of sizes in the troposphere and stratosphere. The refractive index depends primarily upon the temperature, pressure and humidity of the air. The radar depends on the scattering of EM wave energy of the air associated with clear air turbulence (CAT). The atmosphere minor irregularities in the index refraction exist over a wide range of refraction sizes.

The wind as it varies in direction or speed produce turbulent eddies (small whirling currents of air) .The turbulent eddies are created over a spectrum of sizes ranging from many tens of meters down to cm. Observations of wind velocity profiles are very important for studying meteorological phenomena, weather forecasting etc. Atmospheric radar (wind profiler) is one of the most suitable remote sensing instruments for observing height profiles of three components of wind velocity vector, including the vertical velocity, with high time and height resolutions without influence of weather conditions.

Propagation of radar signals through the atmosphere is strongly dependent on local meteorological conditions, especially in the atmospheric boundary layer. The wind profiling radar uses naturally occurring fluctuations in the radio refractive index and precipitation as targets. Due to their small aperture, UHF profilers are most suitable for measuring the winds in the boundary layer and lower troposphere regions. Unlike the VHF wind profiling radars, UHF radars are very sensitive for hydrometeors due to the small wavelength. Therefore these profilers are very much useful in studying convection, precipitation etc.

UHF radar is a potential tool to carry out research studies such as ABL Dynamics (Winds, Turbulence structure), Seasonal and Inter-annual variations, Interaction between the ABL and the free troposphere, Precipitating systems, Bright band Characterization, Rain/Cloud drop size distribution etc. It is also useful in the operational Mountain meteorology and civil aviation and identification of Atmospheric ducts. It also acts as a supplementary tool to large VHF MST radars by providing the atmospheric data in 0-5 km height range.

Several UHF radars are being operated across the globe either as research tools or as a part of wind profiler networks for operational meteorology. Atmospheric radars originally developed in 1970s for the research of mesosphere and stratosphere have been extensively applied to operational use for observations of the troposphere wind fields since 1990s as demonstrated by the Wind Profiler Demonstration Network. In Japan, more than ten profilers including the MU (middle and upper atmosphere) radar of Kyoto University have been operated for research use. Through the research and evaluation of profiler's data on the numerical weather prediction (NWP) models, JMA (Japan Meteorological Agency) established the operational wind profiler network and data acquisition system (WINDAS) for the enhancement of capability to watch and predict severe weather in Japan.

Microstrip antenna is printed type of antenna consisting of a dielectric substrate sandwiched in between a ground plane and a patch [1]. The concept of Micro strip antenna was first proposed in 1953, twenty years before the practical antennas were produced. Since the first practical antennas were developed in early 1970's, interest in this kind of antennas was held in New Mexico[6]. The microstrip antenna is physically very simple and flat, these are two of the reasons for the great interest in this type of antenna.

Microstrip antennas have several advantages compared to other bulky type of antennas. Some of the main advantages of the microstrip antennas are that it has low fabrication cost, its lightweight, low volume, and low profile configurations that it



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RESEARCH ARTICLE

STEGANOGRAPHY USING DISCRETE WAVELET TRANSFORM

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ABSTRACT

In this project we proposed a new steganography technique which embeds the secret messages in frequency domain. Unlike the Space domain approaches, secret messages are embedded in the high frequency coefficients resulted from Discrete Wavelet Transform. Coefficients in the low frequency sub-band are preserved unaltered to improve the image quality. Some basic mathematical operations are performed on the secret messages before embedding. These operations keep the messages away from stealing, destroying from unintended users on the internet and hence provide security.

keywords: Image processing, steganography, DWT.

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Experimental investigations on a variable compression ratio (VCR) CIDI engine with a blend of methyl esters palm stearin-diesel for performance and emissions

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Proc Inst Mech Engrs Part B: J Eng Manuf 2014 248(10): 1000-1010, DOI: 10.1177/1081026314135000

Abstract

The present work deals with an experimental evaluation of the existing diesel engine with a blend of methyl esters of palm stearin (PS) oil and petro-diesel under varying injection pressures and compression ratios (CRs). It was observed that the brake thermal efficiency of engine was high with PSME40 at an injection pressure of 210 bar and CR of 16.5 when compared to other fuel injection pressures of 190 and 230 bar. However, the engine performance was superior with CR 19 at the rated injection pressure of 190 bar. Higher peak pressures are observed with higher CR. The engine emissions in terms of hydrocarbons, carbon monoxide and smoke opacity were lower but the nitrogen oxides were found to be increased due to the better combustion. It is observed that CR and fuel injection pressure simultaneously played a vital role in the reduction of emissions. The study revealed that PS could be explored as a source for producing biodiesel effectively with environmental concerns.

KEYWORDS: CI engine, PSME40 blend, fuel injection pressures, compression ratios, engine performance, exhaust emissions,

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Effect of Compression Ratio and Fuel Injection Pressure on the Performance and Emissions of a CI Engine with Methyl Esters of Pongamia Oil

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Abstract

Diesel fueled compression ignition engines are invariably used in light, medium and heavy duty applications. Heavy dependence on petroleum derived diesel fuel has led to the twin problems of loss of exchequer and environmental pollution. The intensive research revealed that transesterified vegetable oils could be the best substitute for existing diesel engines. The present paper deals with experimental investigations on a typical compression ignition engine when it was run at constant speed with methyl ester of Pongamia oil (non-edible type). Simultaneous effect of compression ratio (16.5 and 19) and fuel injection pressures (190, 210 and 230 bar) on performance and emissions of the chosen engine are examined. The test data represent the information on the performance of the engine when it was run with petro-diesel at rated FIP of 190 bar and CR 16.5. The engine was successfully run with neat methyl ester of pongamia oil. The brake thermal efficiency was observed to be high at an injection pressure of 210 bar and CR 16.5 where an efficiency was high for CR of 19 at the rated injection pressure of 190 bar. A percentage increase of about 29% was observed in NOx emission with PME compared to petro-diesel operation. It is observed that compression ratio has a dominant effect on performance where as fuel injection pressure has played a vital role in the reduction of emissions.

Keywords: Diesel engine, pongamia methyl ester, injection pressures, compression ratio, exhaust emissions

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INTRODUCTION

Diesel fueled compression ignition engines are invariably used in light, medium and heavy duty applications. On large scale, they are being used in transportation sector. The versatility of diesel engines is due to its high fuel conversion efficiency, lower fuel cost, safety operation and high reliability. The increased automotive population over the past two decades has raised the pollution at alarming levels. Moreover, the heavy dependence on petroleum derived fuel (diesel fuel) is not only draining country's exchequer but also raising the doubts of its availability in future years. Thus the twin problems of large scale exploitation of petroleum derived fuels and associated pollution has made the researchers to find viable alternate fuels. The

intensive research has led to the development of various alternate fuels like, alcohol fuels, natural gas, hydrogen, vegetable oils etc.

Among these alternate fuels, vegetable oils are best suited for diesel fuel since its properties are close to petro-diesel. Though, vegetable oils offer advantages such as renewable, self sustainability, however, their straight use in engines is restricted mainly due to its high viscosity.

The vegetable oils are mainly classified as edible and non-edible oils. Edible oils are sunflower oil, groundnut oil, coconut oil, olive oil, palm oil etc. Neem oil, Jatropha oil, Cotton seed oil, Pongamia oil and castor oil are few examples of non-edible oils. Since

Dynamic Data Storage Publishing and Forwarding in Cloud Using Fusion Security Algorithms

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Abstract A Cloud storage system consists of a collection of storage servers provide long-term Services over the internet. Storing data in other's Cloud system causes serious concern over data confidentiality. Existing systems protect data confidentiality, but also limit the functionality of the system. Constructing a secure storage system that supports multiple functions is challenging when the storage system is distributed. Proposed system consists of proxy re-encryption scheme integrated with a decentralized erasure code such that a secure storage system is constructed. Planned system not only supports secure and robust data, but also let user forward data in the storage system to another user without retrieving it back. Projected system fully integrates encrypting, encoding and forwarding. Proposed system analyzes and suggests suitable parameters for number of copies of messages delivered to storage servers and number of storage servers queried by key server.

Keywords Decentralized Erasure Code, Proxy Re-Encryption, Threshold Cryptography, Secure Storage System

1. Introduction

Cloud Computing is a concept that treats the resources on the Internet as a unified Entity Cloud. It focuses on designing a cloud storage system for robustness, confidentiality and functionality. One way to provide Data robustness is to replicate a message such that each server stores copy of message. It is very robust because the message can be retrieved as long as one storage server survives. As high-speed networks and ubiquitous Internet access become available in recent years, many services are provided on the Internet such that users can use them from anywhere at any time. For example, the email service is probably the most popular one. Cloud computing is a concept that treats the resources on the Internet as a unified entity, a cloud. Users just use services without being concerned about how

computation is done and storage is managed. A cloud storage system is considered as a large scale distributed storage system that consists of many independent storage servers. Moving data into the cloud offers great convenience to users since they don't have to care about the complexities of direct hardware management. The pioneer of Cloud Computing vendors, Amazon Simple Storage Service (S3) and Amazon Elastic Compute Cloud (EC2) are both well known examples. While these internet-based online services do provide huge amounts of storage space and customizable computing resources, this computing platform shift, however, is eliminating the responsibility of local machines for data maintenance at the same time. As a result, users are at the mercy of their cloud service providers for the availability and integrity of their data. Recent downtime of Amazon's S3 is such an example. From the perspective of data security, which has always been an important aspect of quality of service, Cloud Computing inevitably poses new challenging security threats for number of reasons.

Secondly, Cloud Computing is not just a third party data warehouse. The data stored in the cloud may be frequently updated by the users, including insertion, deletion, modification, appending, reordering, forwarding etc. To ensure storage correctness under dynamic data update is hence of paramount importance. However this dynamic feature also makes traditional integrity insurance tech inquest futile and entails new solutions. Last but not the least, the deployment of Cloud Computing is powered by data centers running in a simultaneous, cooperated and distributed manner. Individual user's data is redundantly stored in multiple physical locations to further reduce the data integrity threats. Therefore, distributed protocols for storage correctness assurance will be of most importance in achieving a robust and secure cloud data storage system in the real world. However, such important area remains to be fully explored in the literature. Another way to encode a message of k symbols into a codeword of n symbols by erasure coding. To store a message each of its codeword symbols is stored in different storage server. Storing data in a third party's cloud causes serious concern on data

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DUAL LINK FAILURE RECOVERY BY BACK UP LINKS

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ABSTRACT

Networks employ link protection to achieve fast recovery from link failures. While the first link failure can be protected using link protection, there are several alternatives for protecting against the second failure. This paper formally classifies the approaches to dual-link failure resiliency. One of the strategies to recover from dual-link failures is to employ link protection for the two failed links independently, which requires that two links may not use each other in their backup paths if they may fail simultaneously. Such a requirement is referred to as Backup Link Mutual Exclusion (BLME) constraint

This paper develops the necessary theory to establish the sufficient conditions for existence of a solution to the BLME problem. Solution methodologies for the BLME problem is developed using two approaches by:

- (1) formulating the backup path selection as an integer linear program; and
- (2) developing a polynomial time heuristic based on minimum cost path routing.

General Terms

Heuristic and linear integer are the two algorithms used in this project.

1. INTRODUCTION

The ever-increasing transmission speed in the communication networks calls for efficient fault-tolerant network design. Today's backbone networks employ optical communication technology involving wavelength division multiplexing (WDM) efficient and fast recovery techniques from node and link failures are mandated in the design of high-speed networks. As link failures are the most common case of the failures seen in the networks, this paper restricts its scope to link failures alone. Optical networks of today operate in a circuit-switched manner as optical header processing and buffering technologies are still in the early stages of research for wide-scale commercial deployment. Protecting the circuits or connections established in such networks against single link failures may be achieved in two ways: path protection or link protection.

Path Protection:

Path protection attempts to restore a connection on an end-to-end basis by providing a backup path in case the primary (or working) path fails. The backup path assignment may be either independent or dependent on the link failure in the network more than one backup path may be assigned for a primary path and the connection is reconfigured on the backup path corresponding to the failure scenario that resulted in the primary path failure. The former is referred to as failure independent path protection (FIPP) while the latter is referred to as failure dependent path protection (FDPP).

Link protection:

Link protection recovers from a single link failure by rerouting connections around the failed link. Such a recovery may be achieved transparent to the source and destination of the connections passing through the failed link. The time needed to detect the fault, communicate to the end nodes re-initiate connection requests on the backup paths, and reconfigure the switches at the intermediate nodes could sometimes cause the layers above the optical layer to resort to their own restoration solutions. Link protection reduces the communication requirement as compared to path protection thus providing fast recovery

Dual-link failures are becoming increasingly important due to two reasons. Firstly, links in the networks share resources such as conduits or ducts and the failure of such shared resources result in the failure of multiple links. Secondly, the average repair time for a failed link is in the order of a few hours to few days [6] and this repair time is sufficiently long for a second failure to occur. Although algorithms developed for single-link failure resiliency is shown to cover a good percentage of dual-link failure

A. Dual-link failure resiliency with link protection

Dual-link failure resiliency strategies are classified based on the nature in which the connections are recovered from first and second failures. The recovery from

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The screenshot displays a web browser window with the following elements:

- Browser Tabs:** "Inbox - vellojagajayagapal", "A Systematic Survey on...", "International Journal of Cor..."
- Address Bar:** "i-managerpublications.com/article.aspx?articleid=3471"
- Page Header:** "i-manager Publications" logo and social media icons (Facebook, Twitter, LinkedIn).
- Navigation Menu:** Home, About Us, Journals, Subscribers, Authors, Contact.
- Article Title:** "A Systematic Survey on Waterfall Vs. Agile Vs. Lean Process Paradigms"
- Authors:** "Baseer*, Rama Mohan Reddy A**, Shoba Bindu C***"
- Section:** "Abstract"
- Abstract Text:** "We intend to highlight the key features and future directions in the research community of waterfall, agile and lean process paradigms from 2001 to 2014, exemplifying how research on waterfall, agile and lean has progressively increased in the past fourteen years by inspecting articles and papers from scientific and standard publications. Survey materialized in three fold process. Firstly, the authors have investigated on the amalgamation of waterfall, agile and then proceeded with agile-lean. Secondly, they have performed a structural analysis on different author's prominent contributions in the form of tabulation by categories and"
- Taskbar:** Windows taskbar with search bar, system tray, and date/time (14-12-2017, 21:31).

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Finding Frequent and Maximal Periodic Patterns in Spatiotemporal Databases for Shifted Instances

O. Obulesu, A. Rama Mohan Reddy

Abstract

Data mining used to find hidden knowledge from large amount of Databases. Periodic Pattern Mining is useful in Weather Forecasting, Fraud Detection and GIS Applications. In General, spatio-temporal pattern discovery process finds the partially ordered subsets of the event types whose instances are located together and occur serially for a given collection of Boolean spatio-temporal event types. Big Data contains large-volume, complex, growing data sets with multiple, autonomous sources. With the fast development of networking, data storage, and the data collection capacity, Big Data is now rapidly expanding in all science and engineering domains, including physical, biological and bio-medical sciences. In this paper, a new framework is proposed to find spatiotemporal patterns from Big Data. Existing algorithms are well in computation of necessary patterns, but more problematic when they are applied to Big Data. Big Data is a new trend used to analyse the datasets that due to their large size and complexity, Developers cannot manage them with traditional current algorithms or data mining software tools. Big Data mining is the capability of extracting useful information from these large datasets or streams of data, that due to its volume, variety, and velocity, it was not possible before to do it. The Big Data challenge is becoming one of the most exciting opportunities for the next years. This Paper focuses on a broad overview of pattern mining algorithms and significance in Spatiotemporal Databases, its current status, trade-offs, and forecast to the big data pattern mining future.

Keywords

USER

Username

Password

Remember me

ARTICLE TOOLS

SUBSCRIPTION

NOTIFICATIONS

Type here to search

 21:32
 14/12/2017

Performance Study of Different Medical Images Based on Morphology in Noisy Environment

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ABSTRACT

Identification of Medical images is done using their regional structures. Edge detection is a basic element in the area of image processing and computer vision particularly for feature extraction. Edge detection simplifies the amount of data to be processed with modifying the structural properties of the image. Edge is a boundary between the foreground and background. Medical image edge detection concentrates on object recognition of human organs but involves noise along with shadows and boundaries. Several diagnostic tools used to detect the disease are CT, MRI, PET, US and DICOM. In this paper performance of CT and DICOM images are evaluated in noisy environment using morphology and edge detection algorithms. A comparison of different edge detecting methods using different noises is performed and evaluated based on parameters like correlation coefficient and PSNR. The results judge the ability of operators in presence of noise.

Keywords: Edge detection, CT, DICOM, Noise, Edge detecting methods, Morphology, PSNR.

1. INTRODUCTION

An image is defined as a two dimensional light intensity function $f(x,y)$, where x and y are spatial coordinates, and the value f at any pair of coordinates (x,y) is called intensity or grey level value of the image at that point. Edge detection is one of the most commonly used operations in image analysis. An edge is defined by a discontinuity in grey level values. Edge can also be defined as the boundary between an object and the background. Edges are the sign of lack of continuity, and ending. As a result of this transformation, edge image is obtained without encountering any changes in physical qualities of the main image. Edge detection reduces the amount of data that is to be processed without disturbing the structural properties of the image. Edge detection filter mainly improves the appearances of the blurred images. Edge detection converts original image into edge

image by forming boundaries or outlines. The shape of the edges in images depends on many parameters: the geometrical and optical properties of the object, the illumination conditions, and the noise level in the image [1]. Medical image detection is a line through which the work of object recognition of the human organs such as lungs, brain and ribs, abdominal extremities and it is an essential pre-processing step done in medical image segmentation. In real world applications, medical images contain object boundaries and object shadows and noise [2]. This paper distinguishes the exact edge from noise and which operator better suits for the noise environment to extract the edges.

2. Review of Previous Work

In the past two decades several algorithms were developed to extract the contour of homogenous regions within a digital image. L.J.Spreeuwers and F.vander Heijden [3] evaluated the performance of

An Overview on Security Issues in Cloud Computing

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Abstract : Cloud Computing, a rapidly developing information technology has aroused the concern of the whole world. Cloud Computing is Internet-based computing, whereby shared resources, software and information are provided to computers and devices on-demand, like the electricity grid [1]. Cloud Computing is the product of the fusion of traditional computing technology and network technology like grid computing, distributed computing parallel computing and so on. It aims to construct a perfect system with powerful computing capability through a large number of relatively low-cost computing entity, and using the advanced business models like SaaS (Software as a Service), PaaS (Platform as a Service), IaaS (Infrastructure as a Service) to distribute the powerful computing capability to end the users' hands. This paper introduces the background and service model of cloud computing. This paper also introduces the existing issues in cloud computing such as security, privacy, reliability and so on.

Keywords:- Cloud Computing, Service Models, Security, Privacy.

I. INTRODUCTION

Cloud Computing is not a total new concept; it is originated from the earlier large-scale distributed computing technology. However, it will be a subversion technology and cloud computing will be the third revolution in the IT industry, which represent the development trend of the IT industry from hardware to software, software to services, distributed services to centralized service. The core concept of cloud computing is reducing the processing burden on the users' terminal by constantly improving the handling ability of the cloud, eventually simplify the users' terminal to a simple input and output devices and busk in the powerful computing capacity of the cloud on-demand. All of this is available through a simple internet connection using a standard browser or other connection [2].

Cloud computing is a model for enabling convenient and on demand network access to a shared group of computing resources that can be rapidly released with minimal management effort or service provider interaction. Cloud has advantages in offering more scalable, fault-tolerant services with even higher performance. Also, Cloud computing can be referred to as a new kind of storage technology, by which we can share software, data or documents to computers as well as other devices on demand.

Cloud Service providers (CSP) (e.g. Microsoft, Google, Amazon, Salesforce.com, GoGrid) are leveraging virtualization technologies combined with self-service capabilities for computing resources via the Internet. In these service provider environments, virtual machines from multiple organizations have to be co-located on the same physical server in order to maximize the efficiencies of virtualization. Cloud service providers must learn from the managed service provider (MSP) model and ensure that their customers' applications and data are secure if they hope to retain their customer base and competitiveness. Today, enterprises are looking toward cloud computing horizons to expand their on-premises infrastructure, but most cannot afford the risk of compromising the security of their applications and data.

International Data Corporation (IDC) conducted a survey (see Fig.1.) of 263 IT executives and their line-of-business colleagues to gauge their opinions and understand their companies' use of IT cloud services. Security ranked first as the greatest challenge or issue of cloud computing.

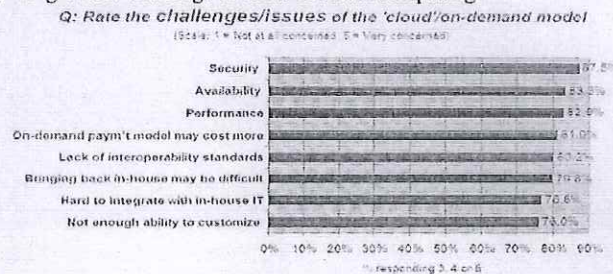


Fig.1. Results of IDC ranking security challenges.

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Features of Adaptive Test Suites

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Abstract

Case-based reasoning is an approach to problem solving and learning that has got a lot of attention over the last few years. This paper provides an overview of the case-based reasoning, brief outline on applicability of case-based reasoning to test suite, describing the various features of adaptive test suite system based on CBR framework will possess, focuses on benefits of adaptive approach over existing test case selection/retrieval approaches. The current work demonstrates the benefit of case base in reasoning approach for selecting test case or for testing the product during system testing and regression testing phases of the product.

Keywords: Retrieve, Reuse, Revise, Retain, Test suite reduction, Test case Prioritization, Test case Selection, Test suite Optimization

1. Introduction

In Case Based Reasoning, problems are solved by adapting the solutions of similar previous cases stored in a case memory. CBR mainly consist of four phases they are Retrieve, Reuse, Revise, and Retain [1]. Retrieving the cases from the case base whose problem is most similar to the new problem. Reusing is the solutions from the retrieved cases to create a proposed solution for the new problem. Revising the proposed solution to take into account of the differences between the existing problems, current problems and modify the same in accordance with the current problem. Retaining the new problem and its revised solution as new case for new case for case-base if appropriate. CBR is has few assumptions, first and main assumption is that "Similar problems have similar solutions". And other assumptions are "The world is a regular place"- what holds true today will probably hold true tomorrow. Next is "Situation repeat"- if they do not there is no point in remembering them.

Test suite is a collection of test cases that intended to be used to test a software program to show that it has some specific set of behaviors. A Test case is representation of test scenarios. A test suite often contains detailed instructions or goals for each collection of test cases and information on the system configuration to be used during testing. The main contribution of the work is Classification of techniques for R4 phases in CBR, Test suite optimization, Case Based reasoning and Test suite optimization.

Markovitch & Scott (1993) propose a unifying framework for the systematic discussion of all of the various strategies for coping with harmful knowledge in general, and the utility problem in particular. Their framework is based on different types of filters for eliminating harmful knowledge at various stages in the problem solving cycle. One approach that is especially relevant in CBR is to simply delete harmful cases from the case base so that they cannot actively contribute to ongoing problem solving costs deletion policies in CBR correspond to selective retention filters in the Markovitch & Scott framework. Surprisingly enough, in many speed-up learners even



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CSE-48

Performance Analysis of Extended Shadow Clustering Techniques and Binary Data Sets Using K-Means Clustering

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ABSTRACT: Data clustering is a process of putting similar data into groups. A clustering algorithm partitions a data set into several groups such that the similarity within a group is larger than among groups. This paper reviews five of the most representative off-line clustering techniques: K-means clustering, Fuzzy C-means clustering, Mountain clustering, Subtractive clustering and Extended Shadow Clustering. The techniques are implemented and tested against a medical problem of heart disease diagnosis. Performance and accuracy of the four techniques are presented and compared. **General Terms:** Data Mining, Image Processing, Artificial Intelligence.

Keywords — Clustering, Data clustering, K-means, Fuzzy mountain, subtractive. C-Means Clustering Extended Shadow Clustering.

I. INTRODUCTION

Data Clustering is considered an interesting approach for finding similarities in data and putting similar data into groups. Clustering partitions a data set into several groups such that the similarity within a group is larger than that among groups [1]. The idea of data grouping, or clustering, is simple in its nature and is close to the human way of thinking; whenever we are presented with a large amount of data, we usually tend to summarize this huge number of data into a small number of groups or categories in order to further facilitate its analysis. Moreover, most of the data collected in many problems seem to have some inherent properties that lend themselves to natural groupings. Nevertheless, finding these groupings or trying to categorize the data is not a simple task for humans unless the data is of low dimensionality.

Clustering algorithms are used extensively not only to organize and categorize data, but are also useful for data compression and model construction. By finding similarities in data, one can represent similar data with fewer symbols for example. Also if we can find groups of data, we can build a model of the problem based on those groupings.

Another reason for clustering is to discover relevance knowledge in data. Francisco Azuaje *et al.* [2] implemented a Case Based Reasoning (CBR) system based on a Growing Cell Structure (GCS) model. Data can be stored in a knowledge base that is indexed or categorized by cases; this is what is called a Case Base. Each group of cases is assigned to a certain category. Using a Growing Cell Structure (GCS) data can be added or removed based on the learning scheme used. Later when a query is presented to the model, the system retrieves the most relevant cases from the case base depending on how *close* those cases are to the query.

In this paper, five of the most representative off-line clustering techniques are reviewed:

- K-means (or Hard C-means) Clustering,
- Fuzzy C-means Clustering,
- Mountain Clustering,
- Subtractive Clustering and
- Extended Shadow Clustering.

These techniques are usually used in conjunction with radial basis function networks (RBFNs) and Fuzzy Modeling. Those four techniques are implemented and tested against a medical diagnosis problem for heart disease. The results are presented with a comprehensive comparison of the different techniques and the effect of different parameters in the process.

The remainder of the paper is organized as follows. Section II presents an overview of data clustering and the underlying concepts. Section III presents each of the four clustering techniques in detail along with the underlying mathematical foundations. Section IV introduces the implementation of the techniques and goes over the results of each technique, followed by a comparison of the results. A brief conclusion is presented in Section V. The MATLAB code listing of the five clustering techniques can be found in the appendix.

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An Overview on Security Issues in Cloud Computing

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Abstract : Cloud Computing, a rapidly developing information technology has aroused the concern of the whole world. Cloud Computing is Internet-based computing, whereby shared resources, software and information are provided to computers and devices on-demand, like the electricity grid [1]. Cloud Computing is the product of the fusion of traditional computing technology and network technology like grid computing, distributed computing parallel computing and so on. It aims to construct a perfect system with powerful computing capability through a large number of relatively low-cost computing entity, and using the advanced business models like SaaS (Software as a Service), PaaS (Platform as a Service), IaaS (Infrastructure as a Service) to distribute the powerful computing capability to end the users' hands. This paper introduces the background and service model of cloud computing. This paper also introduces the existing issues in cloud computing such as security, privacy, reliability and so on.

Keywords:- Cloud Computing, Service Models, Security, Privacy.

I. INTRODUCTION

Cloud Computing is not a total new concept; it is originated from the earlier large-scale distributed computing technology. However, it will be a subversion technology and cloud computing will be the third revolution in the IT industry, which represent the development trend of the IT industry from hardware to software, software to services, distributed services to centralized service. The core concept of cloud computing is reducing the processing burden on the users' terminal by constantly improving the handling ability of the cloud, eventually simplify the users' terminal to a simple input and output devices and busk in the powerful computing capacity of the cloud on-demand. All of this is available through a simple internet connection using a standard browser or other connection [2].

Cloud computing is a model for enabling convenient and on demand network access to a shared group of computing resources that can be rapidly released with minimal management effort or service provider interaction. Cloud has advantages in offering more scalable, fault-tolerant services with even higher performance. Also, Cloud computing can be referred to as a new kind of storage technology, by which we can share software, data or documents to computers as well as other devices on demand.

Cloud Service providers (CSP) (e.g. Microsoft, Google, Amazon, Salesforce.com, GoGrid) are leveraging virtualization technologies combined with self-service capabilities for computing resources via the Internet. In these service provider environments, virtual machines from multiple organizations have to be co-located on the same physical server in order to maximize the efficiencies of virtualization. Cloud service providers must learn from the managed service provider (MSP) model and ensure that their customers' applications and data are secure if they hope to retain their customer base and competitiveness. Today, enterprises are looking toward cloud computing horizons to expand their on-premises infrastructure, but most cannot afford the risk of compromising the security of their applications and data.

International Data Corporation (IDC) conducted a survey (see Fig.1.) of 263 IT executives and their line-of-business colleagues to gauge their opinions and understand their companies' use of IT cloud services. Security ranked first as the greatest challenge or issue of cloud computing.

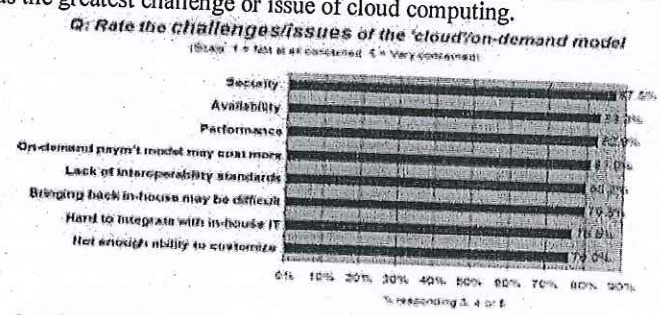


Fig.1. Results of IDC ranking security challenges.

Spatial Knowledge for Disaster Identification

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Abstract: Recent developments in information technology have enabled collection and processing of vast amounts of personal data, business data and spatial data. It has been widely recognized that spatial data analysis capabilities have not kept up with the need for analyzing the increasingly large volumes of geographic data of various themes that are currently being collected and archived. On one hand, such a wealth of data holds great opportunities for geographers, environmental scientists, public health researchers, and others to address urgent and sophisticated geographic problems, e.g., global change, epidemics etc.. Our study is carried out on the way to provide the mission-goal strategy (requirements) to predict the disaster. The co-location rules of spatial data mining are proved to be appropriate to design nuggets for disaster identification and a framework has been suggested. Principal Component Analysis is a statistical method for identifying patterns.

Keywords: spatial data mining, collocation rule mining, PCA

1. INTRODUCTION:

Geography is an integrative discipline and geographic data under analysis often span across multiple domains. The complexity of spatial data and geographic problems, together with intrinsic spatial relationships, constitute an enormous challenge to conventional data mining methods and call for both theoretical research and development of new techniques to assist in deriving information from large and heterogeneous spatial datasets. (Han and Kamber 2001; Miller and Han 2001; Gahegan and Brodaric 2002).

For a long time spatial analysis of health data was restricted to the mapping of individual cases or rates of particular diseases and other health relevant parameters. More of these 'health' maps have become available as the use of geographical information systems in health related contexts increased. Many literary research works has been taken place such as [1][4][11].

Although disease maps may provide clues of the etiology of diseases and may facilitate decisions concerning planning of health systems, sound analytical methods are needed to assess associations between health events and etiological factors that vary gradually over geographical regions. The last two decades saw therefore a vast and still ongoing development of statistical methods for the analysis of spatial data. ((Bailey & Gatrell 1995; Cressie 1991, Haining 1990).

This paper describes a formula implemented as Hazard science to Risk Science, towards understanding the hazards and their consequences (risks), following a probabilistic approach using spatial data mining [1].

Due to larger heterogeneity of spatial data, the providers of geographic data specify different models for same spatial objects. Context specific semantics is one of the best approach suggested which deals with provision of feature space derivations. An Ontological analysis need to be done on the fundamentals of the domain space.

A feature space consists of all input data objects, each of which is typically described by many variables (some of which, in a spatial dataset, may represent geographic characteristics and relationships). Unknown and unexpected patterns, trends or relationships can hide deep in such a huge feature space and make it very hard for analytical methods or visual approaches to find. (Miller and Han 2000).

A hypothesis space is formed by all possible configurations of the tools used to detect patterns in a feature space. Characteristically, however, the hypothesis space for a large and high dimensional geographic dataset has an extreme degree of complexity. This is caused by several factors. First, each pattern may involve a different subset of variables from the original data, and the number of such subsets (hereafter subspaces), i.e., possible combinations of attributes, is huge. Second, inside a subspace, potential patterns can be of various forms (e.g., clusters can be various shapes). Third, for a specific pattern form (e.g., cluster of a specific shape), its parameter space is still huge, i.e., there are many ways to configure its parameters. Fourth, patterns can vary over geographic space, i.e., patterns can be different from region to region.

The richness of attributes (variables, or dimensions) in a data set can provide both opportunities and challenges for data analysis. On one hand, the availability of many attributes within the data enables the identification of complex (and preferably unexpected) patterns (e.g., multivariate relationships across domains). On the other hand, it is inevitable that irrelevant attributes exist in the data and the result can be misleading or useless if the analysis method is