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S. No			Page No.
1.	**Authors:**	**Parveen Sharma**	
	Paper Title:	**Wheel Modification of a Wheel Type Stair Climber**	

Abstract: This article deals with the designing and manufacturing of a Stair Climber, considering the aspect of wheel modification .Stair climber is the vehicle which can climb stair or move along very rough surface. The technical issues in modification of wheels of this vehicle are the stability and speed of the vehicle while climbing stairs. However, the steepness of the stairs is also the important concern of this study. The uses of this special vehicle are in the frequent lift of goods such as books for library, medicines for hospital, regular mails for any institutes, or transportation of any toxic material for industries and give freedom to the retarded person or paralyzed patients to move anywhere over flat surface as well as stairs. Wheel of Stair Climber is modified on the basis of Different criteria like strength, cost, and mobility etc. using complete product design approach. Different types of Stair Climbers are analysed like Legged Stair climber, Wheeled Stair Climber and tracked Stair Climber .On the basis of different criteria it was find out that wheeled Stair climber is better than other Stair climbers. Pugh chart is used for selection of best concept for different wheel climbers. Using of this vehicle, the labour cost can be reduced as well less power is consumed for lifting of heavy loads. Moreover, considering some drawbacks due to lack of implementation of all techniques during manufacturing phase the test and trial run showed considerably significant and encouraging results that might help the future researchers to incorporate a gear box and steering mechanism to make the vehicle more versatile..

Keywords: Stair climbing vehicle, Tri Lobe Wheel, Pugh Chart.

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10. Design Modification and Manufacturing of Rover Type Stair Climbing Vehicle DEPARTMENT OF MECHANICAL ENGINEERING MILITARY INSTITUTE OF SCIENCE AND TECHNOLOGY DHAKA, BANGLADESH May, 2012.

2.	**Authors:**	**A.M.Balaji Venkatesh, Karthik Kalkura, Shriraam A.C**	
	Paper Title:	**Student Locker Protection Using RFID Tag & Reader**	

Abstract: Student lockers are something very common and essential in an educational institution. A student keeps all his valuables inside the locker, and the protection of it is an essential aspect in the design of student lockers. A student not only stores his material valuables, but can also keep his intellectual ideas like research prototypes and important project papers. Some the student's wouldn't have obtained patent to his work when lost will be a huge loss in his career. These kind of theft can't be neglected and we have planned a project on the prevention of these thefts. This Project is designed to enable security to student locker in educational institutions using RFID tags and Zigbee protocol to create electronic locks and password protected. The locker can be opened by the authorized individuals. To ensure this, the system uses RFID reader which is placed in the locker and the corresponding tags are given to the authorized individuals. Then using wireless Zigbee protocol the values are compared with the database and the lock is opened using a random password. When someone unauthorised tries to access the locker a message is intimated to the owner

Keywords: PIC Controller, Random Number Generation algorithm RFID, Zigbee

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3.	**Authors:**	**Parveen Kumar, Harsh Raghuvanshi**	

	Paper Title:	**Design & Analysis of a Spur Gear in different Geometric Conditions**	
	Abstract: This paper present the designing of the spur gear on different geometric conditions and finding the effect of these on tooth load like by changing the concentration of SIC in SIC based aluminium gear.Addition of SIC increases the strength of Spur Gear.Effect is also analyzed by changing the modules of the gear and by changing the tooth width. Tooth load is calculated with help of Lewis equation & dynamic tooth load is calculated with help of Buckingham equation. Static analysis of the gear is done to find the Von-mises stress on the tooth of the gear in while meshing. **Keywords:** Buckingham equation, Lewis equation, Module, PTC Creo **References:** 1. B.Venkatesh, V.Kamala2, A.M.K. Prasad3Parametric Approach to Analysis of Aluminum alloy Helical gear for High Speed Marine ApplicationsVol.1, Issue1, pp-173-178 2. J.A. Wright, et al, Design, development and application of new, high-performance gear steels, Gear technology(2010),pp 46 –53[2]Rao, C.M., and Muthuveerappan G., Finite Element 3. Modeling and Stress Analysis of Helical Gear, Teeth, Computers & structures, 49,pp.1095-1106, 1993. 4. Marappan, S. and Venkataramana, 2004,ANSYS Reference Guide., CAD CENTRE, India 5. PSG, 2008.Design data, KalaikathirAchchagampublishers, Coimbatore, India 6. Shigley, J.E. and Uicker,J.J,Theory of machines and mechanisms,McGraw Hill, 1986. 7. R.S. KHURMI and J.K. GUPTA,Theory of machine , S. Chand publications, Edition 16 reprint (2008), pp.382-397. 8. "Machine Design" by S.Md.Jalaludeen,AnuradhaPublications(2009). 9. "Design Data Hand Book for Mechanical Engineers"By K.Mahadevan&K.Balaveera Reddy	**8-13**
4.	**Authors:**	**Sheeba O., Nikki Vinayan**	
	Paper Title:	**Image Segmentation and Analysis in the Case Study of Macular Degeneration Using Labview**	
	Abstract: Computer assisted analysis of retinal images to diagnose Age Related MacularDegeneration (AMD) requires the quantification of drusen deposits in human retina. Age-related macular degeneration is a disease associated with aging that gradually destroys sharp, central vision. An increase in the size or number of drusen raises a person's risk of developing advanced AMD. These changes can cause serious vision loss. Incorporation of image processing technologies in the field of ophthalmology presents a wide range of possibilities when there is a demand for improving the quality of medical care. An automated and reliable method for finding the drusen exudates has been developed using retinal image analysis. The retinal images are enhanced and morphological operations done so as to segment drusen areas that differ slightly from the background. The software Vision Assistant of Lab VIEW is used for the automatic detection and mapping of drusen deposits in the retinal images. The result is the display window which helps the doctor to make the accurate diagnosis or get information regarding the efficacy of the treatment very faster during the course of the disease. **Keywords:** Macular Degeneration, Drusen, Image segmentation, Histogram equalization, Mathematical morphology. **References:** 1. Green R.W, Histopathology of age related macular degeneration. (Molec.Vis.27-36, 1999). 2. Sheeba.O,Dr.Sukeshkumar.A Image Analysis for the detection of Drusen Deposits on Human Retina. National Conference on Industrial Automation - Emerging Trends 21 & 22 Jan 2005. Easwari Engg.College , Chennai. 3. Sheeba.O, Dr.Sukeshkumar.A, Dr.Mahesh.G Processing of Retinal images in Age Related Macular Degeneration. National conference on Bioinformatics Computing (NCBC ?05) field 18-19 March 2005. Deemed university, Patiala. 4. Dr.Mahesh.G.,Dr A.Giridhar, Sheeba.O, Dr.Sukeshkumar Drusen Segmentation - Validation and Analysis of Fellow Eyes of End stage Wet Age Related Macular Degeneration. First Conference of Opthalmic Association of South India and Srilanka and l 32 nd Annual Conference of Kerala Society of ophthalmic surgeons. NOV 25,26,27 2005. 5. Otsu Nobuyuki "A threshold Detection Method from gray level histograms",vol.SMC-9,no.1, January 1979. 6. Kirkpatrick JNP, Spencer T, Manivannan A., et al., Quantitative image analysis of macular drusen from fundus photographs and scanning laser ophtalmoscope images Eye,9,48-55,1995. 7. Morgan WH., Cooper RL. Constable IJ, Eikelboom RH., Automated extraction and quantification of macular drusen from fundal photographs. Aust NZJ Opthalmology,22,7-12 (1994). 8. Peli E., Lahav M., Drusen measurements from fundus photographsusing computer image analysis, Opthalmology 1986,93,1575-80 (1986). 9. Evans J.R. (2001) Risk factors for age related macular degeneration. Prog. Retin.Eye.Res.20, 227-253. 10. Gonzalez R.C.,Woods R.E . "Digital Image Processing", 1993. 11. George C Panayi, Alan C Bovik and Umesh Rajasheka "Image Processing for Everyone" www.cns.nyu.edu/~umesh/publications/2000/SP_edu_2000_labview.pdf?	**14-17**
5.	**Authors:**	**Pankaj Chejara, Urvashi Garg, Gurpreet Singh**	
	Paper Title:	**Vulnerability Analysis in Attack Graphs Using Conditional Probability**	
	Abstract: Computer networks have become an essential part of almost every organization. These organizations spend a lot of time and money to secure their networks from intruders and attackers. As the need of computers increased, need for network security increased correspondingly. Attackers are always trying to find weakness in network which can be used to break into the network known as vulnerability. So network administrator needs to patch vulnerabilities to thwart attacker from achieving their goal. As new vulnerability are discovered daily, it is very hard to patch every vulnerability in network but if riskier vulnerabilities get patched, risk level can be reduced significantly. Vulnerability score gives insight into the behavior of vulnerability. These scores make security analyst's work easier to some extent. But these scores do not include collective effect of vulnerabilities. A number of vulnerability scanners are available, which provide complete vulnerability details about host. These vulnerability details give analyst a good idea about to which extent the network security can be compromised, but does not give complete view of network vulnerability. Attack graph provides solution to this problem. Attack graph is set of nodes	**18-21**

and edges where node represents attacker's state and edge represent possible transition among attacker's state. This technique gives path that can be followed by attacker to gain network's resources. In the network attack graph depict how vulnerability affect network in conjunction with other vulnerabilities. Some vulnerability may not be riskier alone but when chained with some other, it can compromise the security of network. These attack graphs are important security tools to find out such vulnerabilities also. In this paper, we have developed an technique to provide scores to each path in attack graph so as to analyze, which path is to be patched first to remove the risk of attack. These scores are based on conditional probability method.

Keywords: Attack Graphs, Attack Model, Vulnerability Score, Attack Sequence

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6.

Authors: **Medhat Awadall, Afaq Ahmad, Samir Al-Busaidi**

Paper Title: **Min–min GA Based Task Scheduling In Multiprocessor Systems**

Abstract: An efficient assignment and scheduling of tasks of a multiprocessor system is one of the key elements in the effective utilization of multiprocessor systems. This problem is extremely hard to solve, consequently several methods have been developed to optimally tackle it which is called NP-hard problem. This paper presents two new approaches, Modified List Scheduling Heuristic (MLSH) and enhanced genetic algorithm by constructing promising chromosomes. Furthermore, this paper proposes three different representations for the chromosomes of the genetic algorithm: Min-min task list, processor list and combination of both. Extensive simulation experiments have been conducted on different random and real-world application graphs such as Gauss-Jordan, LU decomposition, Gaussian elimination and Laplace equation solver problems. Comparisons have been performed with the most related algorithms, LSHs, Bipartite GA (BGA) and Priority based Multi-Chromosome (PMC). The achieved results show that the proposed approaches significantly surpass the other approaches in terms of task makespan and processor efficiency.

Keywords: Multiprocessors, Task scheduling, Genetic algorithm, Makespan, Parallel and distributed system, List Scheduling Heuristic

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7.

Authors: **Marek Ondruška**

Paper Title: **Architecture Exception Governance Reference Model - Togaf Framework Extension**

Abstract: The paper proposes an extension for architecture framework Togaf. In particular, it addresses on architecture exceptions and their governance. The article covers a reference model for architecture exception governance (AEG RM) and the way how to integrate it with Togaf Framework. As part of AEG RM there is defined an entity called architecture exception with its main attributes. AEG RM defines all the processes necessary for architecture exception governance, roles and responsibilities, principles a procedures and supporting tools. There is one chapter dedicated only for integration of Togaf and AEG RM. As summary, the paper has two main focuses. The first one is to present architecture exception governance reference model. The second is to integrate the reference model with Togaf architecture Framework. The article requires at least basic knowledge in architecture governance and architecture framework Togaf.

Keywords: Architecture, Exception, Governance, Reference Model, Togaf.

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8.

Authors: **Abdolvahab Agharkakli, Digvijay Pradip Wagh**

Paper Title: **Linear Characterization of Engine Mount and Body Mount for Crash Analysis**

Abstract: This study summarizes the methodology to find the linear mount characteristics with the help of mathematical models and comparison of these results with results from MATLAB simulations. The mounts are treated at the component level, and mathematical models for the same are evaluated to get the required characteristics. The mounts are modelled as spring and damper system subjected to impact loading that occurs during crash events. The approximation of input pulse has been described mathematically, which then serves to find the characteristics of the mounts. The change in the characteristics of mounts with the change in the velocity of impact

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has also been studied.

Keywords: Engine Mount, Body Mount, Vibration and Harshness (NVH), Crash Pulse Approximation

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9.

Authors:	**FarzadVazinram, MajidGandomkar, Javad Nikoukar**
Paper Title:	**Optimal Active Power Rescheduling of Generators for Congestion Management Based On Big Bang-Big Crunch Optimization Using New Definition of Sensitivity**

Abstract: Restructuring of power systems and appearance and development of many electricity markets in all levels of power systems, introduce the congestion challenge of power transmission lines as a critical threat for power systems. Many studies have been attempted to present techniques for congestion management (CM). One of them is active power rescheduling of generators which has two steps. First step is optimum selection of generators on the basis of sensitivities of generator to power flow on congested line/lines. In this paper, the new definition of sensitivity is introduced based on the old definition of sensitivity that consists of cost factor. Next step of CM process is optimum rescheduling of generators power. In this paper, the optimization of rescheduling of generators power is performed based on Big Bang-Big Crunch (BB-BC) algorithm which is improved by Particle Swarm Optimization (PSO) method as Hybrid BB-BC (HBB-BC) optimization for the first time. Effectiveness of the results of proposed method has been tested on the 39-bus New England system and IEEE 30-bus and IEEE 118-bus systems.

Keywords: Big bang-big crunch algorithm, constraint, generator sensitivity, heuristic optimization, optimal rescheduling, transmission congestion management.

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Authors:	**S.M Subramanian, G.Kavya, M.Sujatha U.Santhana Bharathy**
Paper Title:	**Moving Object Tracking in Video Scenes Embedded Linux Platform**

Abstract: Video tracking in real time is one of the most important topic in the field of medical. Detection and tracking of moving objects in the video scenes is the first relevant step in the information extraction in many computer vision applications.This idea can be used for the surveillance purpose, video annotation, traffic monitoring. In this paper, we are discussing about the different methods for the video trackingusing Python Opencv software and the implementation of the tracking system on the Beagleboard XM. Background Subtraction method, and color based contour tracking are the different methods using for the tracking.Andfinally, we concluded that the background subtraction method is most efficient method for tracking all the moving objects in the frames.

Keywords: Surveillance, python opencv, background Subtraction method, Contour tracking.

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Authors:	**Farshad Samaei, Maryam Daneshfar, Samane Safari Beydokhti**
Paper Title:	**Quantification of the Human Postural Control Using the Nonlinear Analysis of Cop Variations during the Quiet Standing**

Abstract: The aging is an effective factor on the quality of standing in healthy subjects. Some neural disorders, degrades the quality of standing, so that the quality of standing in young patient may be as well as the quality of

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standing in elderly healthy subject. So in this study, the subjects were divided to five age groups, and the age group the subject belonging to it is the measure to quantify the quality of postural control. The subjects were aged between 25-75 years old. The Center of Pressure (CoP) position variations and Center of Pressure (CoP) position velocity during the quiet standing were analyzed through the RQA (Recurrence Quantification Analysis) method. The extracted nonlinear features were fed to the nonlinear classifiers, and the output of classifiers specified the age group which each subject belongs to it. The SVM, MLP neural network, and RBF neural network were the used classifiers. In this manner, the quality of subject postural control could be quantified between1 to 5. Results show the SVM classifier with polynomial kernel reached the best performance of 97.44% accuracy.

Keywords: Quiet Standing, Quantification, Aging, RQA, Nonlinear classification.

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Authors:	**Rajeshkumar Gangaram Bhandare, Parshuram M. Sonawane**
Paper Title:	**Preparation of Aluminium Matrix Composite by Using Stir Casting Method**

Abstract: The "composite material" is composed of a discrete reinforcement & distributed in a continuous phase of matrix, In Aluminium matrix composite (AMC) one constitutes is aluminium which forms network i.e. matrix phase and another constitute serve as reinforcement which is generally ceramic or non metallic hard material. The basic reason of metals reinforced with hard ceramic particles or fibers are improved properties than its original material like strength, stiffness etc. Stir casting process is mainly used for manufacturing of particulate reinforced metal matrix composite (PMMC). Manufacturing of aluminum alloy based casting composite by stir casting is one of the most economical method of processing MMC. Properties of these materials depend upon many processing parameters and selection of matrix and reinforcements. This paper presents an overview of stir casting process, process parameter, & preparation of AMC material by using aluminium as matrix form and SiC, Al2O3, graphite as reinforcement by varying proportion.

Keywords: Stir casting process, Aluminum Matrix composite, Reinforcement, Mixing and Agitation.

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MATRIX COMPOSITES: STIR CASTING PROCESS" Journal of Surface Engineered Materials and Advanced Technology, 2012, 2, 11-15

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Authors: **K. Pramod Kumar, P. Anitha, M. C. P Jagdissh**

Paper Title: **Built In Self Repair for Embedded Sram Using Selectable Redundancy**

Abstract: Built-in self-test (BIST) refers to those testing techniques where additional hardware is added to a design so that testing is accomplished without the aid of external hardware. Usually, a pseudo-random generator is used to apply test vectors to the circuit under test and a data compactor is used to produce a signature.
To increase the reliability and yield of embedded memories, many redundancy mechanisms have been proposed. All the redundancy mechanisms bring penalty of area and complexity to embedded memories design. Considered that compiler is used to configure SRAM for different needs, the BISR had better bring no change to other modules in SRAM. To solve the problem, a new redundancy scheme is proposed in this paper. Some normal words in embedded memories can be selected as redundancy instead of adding spare words, spare rows, spare columns or spare blocks.
Built-In Self-Repair (BISR) with Redundancy is an effective yield-enhancement strategy for embedded memories. This paper proposes an efficient BISR strategy which consists of a Built-In Self-Test (BIST) module, a Built-In Address-Analysis (BIAA) module and a Multiplexer (MUX) module. The BISR is designed flexible that it can provide four operation modes to SRAM users. Each fault address can be saved only once is the feature of the proposed BISR strategy. In BIAA module, fault addresses and redundant ones form a one-to-one mapping to achieve a high repair speed. Besides, instead of adding spare words, rows, columns or blocks in the SRAMs, users can select normal words as redundancy.

Keywords: SRAM, (SISR), (BIAA), (MUX), SRAMs.

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14.

Authors: **Lois Onyejere Nwobodo, H.C Inyiama**

Paper Title: **Modelling a Knowledge Management System for an Electricity Company**

Abstract: Knowledge Management system is a system that will allow employees or users to get the required information they need and at the required time, anytime and anywhere as far as there is a network coverage in that area, this will make them perform their duties well. This system is made up of a program runner which is the PC, this is called the Server, the GSM modem that aids the user's phone to communicate with the Server even when connected, MongoDB is a database System that stores data as JSON-like documents with dynamic schemas, Chrome browser, a software application used to locate, retrieve and also display content on the World Wide Web. AT Command that establishes communication between the Modem and the Server. JavaScript and HTML, Protocol Distribution Unit that also helped in the processes of this Project. The project is suitable for broad range of applications as it can be applied in various areas of human life. It can be customized to fit in any organization. Corporate bodies like Communication Companies, Oil firms, Banks can use a Knowledge Management System to get useful information from experts to keep their jobs moving effectively and also to attend to, and satisfy their customers by providing prompt answers to their queries. Generally, it is a means the organisational intellectual resources and information are within the business environment.

Keywords: Company, Electricity, Knowledge, Management, Modelling.

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Authors: **Asmita Jadhav, Mayank Kachroo, Mahesh Hegde Ruchita Mantri, Harshada Ratnaparkhi**

Paper Title: **Optimization in Design of Rotating Hydraulic Crane**

Abstract: This is the paper summarizing and reviewing research in Optimization in Design Of Rotating Hydraulic Workshop Crane Included 1) Brief Introduction to Hydraulics 2)Application & Advantages of Hydraulic Floor Crane 3) Concept generation Detailed Design & Force distribution analysis 4) computer-based models of design processes using CATIA & ANSYS & Manufacring Process5)A final section is Concluson by using SWOT Analysis

Keywords: About four key words or phrases in alphabetical order, separated by commas.

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16.

Authors: **Surya J. Khivsara, Minakshi S.**

Paper Title: **Seminar and Project Manager and Resourceful Trainer**

Abstract: This paper presents an approach to eradicate all of the confusion which surrounds anyone while preparing for the project and seminar. Also it aims in helping the institution to manage the previous batch's seminars and project. Seminar and project activity mainly deals with effective data searching and keeping pace with emerging technologies. This paper focuses the concepts like keeping data at one place, providing guidance related to Projects and seminars. This paper can represent an application that can be used by anyone for solving queries related to project and seminar.

Keywords: This paper focuses the concepts like keeping data at one place, providing guidance related to Projects and seminars.

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17.

Authors: **Zakaulla, A.R.Anwar Khan, P.G.Mukunda**

Paper Title: **Effect of Reinforcement Coatings on the Dry Sliding Wear Behavior of Al6061/SiC Particles/Gr Powder Hybrid Composites**

Abstract: Aluminum matrix composites with Silicon carbide (SiC) and Graphite (Gr) particles are finding increased applications because of improved mechanical and tribological properties. SiC particles are used to increase the hardness of composite while Graphite acts like a solid lubricant. The present investigation deals with Dry sliding wear of an Al6061 reinforced with both Cu coated SiC particles and Cu coated Graphite powder. Copper coating improved the wetting of SiC and Gr by molten aluminum alloy during processing and then dissolved in aluminum matrix to increase the hardness and improve antifriction properties. The wear resistance of hybrid composites having reinforcements coated with Copper is better than that of composites with same content of uncoated reinforcements. Worn surfaces of the pins are analyzed using Scanning Electron Microscope to study the wear mechanisms and to correlate them with the wear test results.

Keywords: Electroless technique, Hybrid composites, Cu coated SiC, Specific wear rate.

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1. Hybrid composite manufactured with Cu coated reinforcements shows increased wear resistance as compared to the uncoated reinforcements because of improved wettability and possibly formation of Al2Cu which hardens the composites.
2. Cu coated reinforcements in hybrid composites showed reduced coefficient of friction when compared with that having uncoated reinforcements
3. Due to the wetting of SiC particles and graphite powders by copper coating , high interfacial bonding strength was achieved which is a key factor in improving wear behavior .
4. SEM observation of wear surfaces of specimens containing Cu coated reinforcements revealed that worn surfaces were smooth and uniform and was incorporated with mechanically mixed layers. REFERENCES
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Authors: **K. Selvam, B. Vishnupriya, M. Maanvizhi**

Paper Title: **Enzymatic Synthesis of Fragrance Ester by Lipase from Marine Actinomycetes for Textile Industry**

Abstract: The present study was carried out to investigate the enzymatic synthesis of fragrance ester from brewery industry effluent by lipase of S. acrimycini NGP 1, S. albogriseolus NGP 2 and S. variabilis NGP 3 which was isolated from the marine sediments of South Indian coastal region. The maximum conversion percentage of ester by lipase producing S. variabilis NGP 3 was 48.72 % and also a strong peak at 1745.21 cm-1 was observed by fourier transform infrared (FTIR) spectroscopy which indicated the presence of ester (C = O). The synthesized esters were imparted on the knitted fabric by exhaustion and microencapsulation method. In the qualitative evaluation of fragrance test for exhausted and microencapsulated knitted fabric, the judges were rated '2' (indicates poor) and '4' (indicates fair) respectively for the sensorial fragrance emitted from the fabric coated by the ester of S. variabilis NGP 3. In the quantitative evaluation, fragrance releasing percentage from exhausted and microencapsulated knitted fabric was found as 31.14 and 39.78 respectively on 48 hrs of treatment. Both qualitative and quantitative evaluation of fragrance test indicated that, the microencapsulated ester of S. variabilis NGP 3 on the knitted fabric emitted better fragrance than by exhausted fabric.

Keywords: Ester, exhaustion, microencapsulation, knitted fabric.

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19.

Authors: **Wissam Ali Hussain, W. Jeberson, Sanjay T. Singh**

Paper Title: **Design & Implementation of Student Information Management System for Karbala University**

Abstract: We can design web pages site for the companies, foundations and the government offices to spreading the information & details for the offices & foundations to facilitation connecting with it by using the internet in any time, and any place. As well as when we design this pages the customer needs to circulate some information which his needed, such that this information will store at a data base form, for example data base contains at the tools submitted to sales, or a data base contains at the information related of the employs for the specific foundation…ect. This research talk about How to design the web pages site and How to test this site, as well as How to implementation this site.

Keywords: (SIMS , SIS , Karbala , Wissam , SHIATS)

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20.

Authors: **Kritika Bawa, Jyoti, Kavita Choudhary**

Paper Title: **Digital and Virtual Era: Digital Citizenship**

Abstract: Digital Citizenship is fruitful for our nation. As we are moving into Digital and virtual ERA, now it is the alarming time for us in this direction. In this paper, we have covered necessity of digital Citizenship and its framework.

Keywords: Digital Citizenship, Internet, E-Commerce.

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21.

Authors: **K.Vidhyalakshmi, S. Md. Zubair, S.Ramprasath**

Paper Title: **Power Quality Improvement at the Distribution Side by the Use of Grid Interfaced Inverter**

Abstract: Renewable energy resources (RES) are being increasingly connected in distribution systems utilizing power electronic converters. This paper presents a novel control strategy for achieving maximum benefits from these grid-interfacing inverters when installed in 3-phase 4-wire distribution systems. The inverter is controlled to perform as a multi-function device by incorporating active power filter functionality. The inverter can thus be utilized as: 1) power converter to inject power generated from RES to the grid, and 2) shunt APF to compensate current unbalance, load current harmonics, load reactive power demand and load neutral current. All of these functions may be accomplished either individually or simultaneously. With such a control, the combination of grid-interfacing inverter and the 3-phase 4-wire linear/non-linear unbalanced load at point of common coupling appears as balanced linear

load to the grid. This new control concept is demonstrated with extensive MATLAB/Simulink simulation studies and validated through digital signal processor-based laboratory experimental results.

Keywords: Active power filter (APF), distributed generation (DG), distribution system, grid interconnection, power quality (PQ).

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22.

Authors:	**Surendra Kumar Shukla, Vishal Trivedi, Ayush Choukse**
Paper Title:	**Challenges on Performance Analysis and Enhancement of Multi - Core Architecture, a Solution Parallel Programming Languages**

Abstract: Performance of computer is major concern in computer architecture. Mores law has gone now, we can not increase the speed of single processor as it has problem of power requirement. So we need to move on multi core processors. Comiler is a main parameter who can give the deatil of parallelism on source code. In this paper we have proposed a scheme where we are utilizing the comiler for detecting and increasing the execution speed of souce code.

Keywords: complier, performance , multi-core architecture

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23.

Authors:	**Somayeh Jashni Arani, Gholamreza Sharifi, Farzaneh Taghian**
Paper Title:	**The Effect of Independent and Combined Exercises on Body Composition of Elite Squash Players**

Abstract: Paper Physical capabilities and ideal body composition are considered as prerequisite for successful performance in sports. Measuring the individual body composition is one of the important, determining and effective factors in athletes' performance in every field of sports matches. Every exercise has its own specific effect on factors of body composition. This quasi-experimental research is aimed to consider the effect of eight weeks of squash exercises on athletes' body composition and compare it with that of combined exercises. Thirty 13 to 17 years old male athletes with at least three years experiences in playing squash were selected and then randomly divided in two 15-member groups. First, the body composition of every group was measured by the INBODY370, the model of JMW140. Then, they started doing exercises for eight weeks. The first group did squash exercises for five sessions a

week (each one ninety minutes). The second group's exercise program was five sessions a week (each one ninety minutes) including three squash sessions and two sessions of the combined exercises. The combined exercises included one session of resistance-endurance exercise and one session of anaerobic power-agility exercise. The athletes' body composition was reassessed after eight weeks. The correlated t-test was used to compare intragroup characteristics and the independent t-test to compare intergroup characteristics. The data were analyzed by the SPSS software. The findings showed that while eight weeks of squash exercises had no effect on weight, Body Mass Index (BMI) and body fat percentage in squash players, eight weeks of the combined exercises significantly impacted on factors of body composition.

Keywords: Squash, body composition, Body Mass Index (BMI), body fat percentage, combined exercises.

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Authors: **K. I. Hwu, Y. T. Yau**

Paper Title: **Gate Driver with Output Having Positive Triple Input Voltage and Negative Double Input Voltage**

Abstract: This paper presents a gate driver, whose output possesses the positive triple input voltage and the negative double input voltage under only one positive-voltage source required. Such a gate driver can reduce the

transient period of the gate driver and hence can reduce the corresponding switching loss. In addition, since double the negative input voltage is imposed on the input of the power switch during the turn-off period, not only the error in triggering the switch due to the Miller effect can be reduced, but also the leakage current can be reduced. The detailed operating principles are illustrated and some simulated and experimental results are provided to verify the effectiveness of the proposed scheme.

Keywords: Gate driver, leakage current, switching loss.

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Authors: **Neha Kohli, Esha Dobhal, Neha Sharma**

Paper Title: **Proposed Framework for the Reduction of Web Congestion using Classification**

Abstract: Prefetching is the process of bringing data from the web server into the web cache before it is needed. When the client needs data, then instead of waiting for the responses from the memory, it can directly access the data from the cache. The prefetched data is stored in web cache in the form of web objects for later use. Caching is the technique of storing a copy of the data that has been requested by the client. Web caching is mainly used to reduce access latency, that is, it speeds up the process of data retrieval. It also reduces heavy load on the web server. The paper proposes a framework for reducing web traffic. The data is first extracted from the proxy server and then preprocessing is performed. The preprocessed data is then classified and the patterns to be prefetched are obtained.

Keywords: Prefetching, classification, proxy server, cache.

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14. Neha Kohli is currently pursuing Bachelor of Technology in Information Technology from Northern India Engineering College, Guru Gobind Singh Indraprastha University, New Delhi, India.

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26.

Authors: **Vinay Divakar**

Paper Title: **Design and Implementation of Microcontroller Based Temperature Data Logging System**

Abstract: The term data logger (also sometimes referred to as a data recorder) is commonly used to describe a self-contained, standalone data acquisition system or device. These products are comprised of a number of analog and digital inputs that are monitored, and the results or conditions of these inputs is then stored on some type of local memory. In this paper, a Temperature Data Logging System is designed to record and display temperatures continuously. It uses a temperature sensor to sense the surrounding temperature and displays the temperature on the PC with the help of LPC 2148 ARM7 TDMI processor and the UART (Universal Asynchronous Receiver/Transmitter). The methodology for designing the temperature data logging system is discussed in detail. The code to implement the functionality of the logging system is modeled and simulated using the Software Tool Keilμ4. The characteristics of LM 35 temperature sensor and the hardware required to interface the output of LM 35 to the LPC 2148 is discussed in detail.

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Keywords: Temperature data logger, data logger, temperature recorder, temperature display, lm35 sensor, UART, ARM TDMI.

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Authors:	**S.Premalatha, R. Vinodha**
Paper Title:	**Performance Analysis of Variable Weight multiple length QC-CHPC for On-Off keying optical CDMA**

Abstract: The concept of a multiwavelength Quadratic Congruence Carrier Hopping prime code (QCCHPC) was recently introduced in order to support a large number of simultaneous users in optical code division multiple access (OCDMA). To support multimedia services with different bit rate requirements multiple length and variable weight QCCHPC is constructed and the performance is analyzed. In QCCHPC with zero autocorrelation side lobes, cross correlation values of at most two. Our analysis shows that code weight is important factor than code length in determining the code performance.

Keywords: Optical code division multiple access (OCDMA), Variable weight, Variable length, Wavelength-time code.

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28.

Authors:	**Mehdi Shekarzadeh**
Paper Title:	**Effect of Ratio Mandrel Radius to Sheet Thickness on the Spring-Back in Bending Steel and Aluminum Sheets**

Abstract: Forming and forging processes are among the oldest and most important of materials-related technologies. Today, industry must continuously evaluate the costs of competitive materials and the operations necessary for converting each material into finished products. Manufacturing economy with no sacrifice in quality is paramount. Therefore, "precision" forming methods, net and near-net shape processing, and modern statistical and computer-based process design and control techniques are more important than ever.
Bending is one of the important methods for manufacturing sheet metal components that is extensively applied in automotive industry and electronic devices. Spring-Back is an unavoidable phenomenon in sheet metal forming that occurs in the end of stamping process because of releasing elastic stress that results changing the final dimensions of sheet. So, Prediction of spring-back is essential for dimensional control of parts in the end of stamping process. In this project a finite element model is presented for simulation of U-bending process and also calculating the amount of spring-back. Comparison between finite element , numeral and experimental results is done for validating the finite element method.

Keywords: Aluminum, Bending, Forging, Spring-back, Steel.

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29.

Authors: **Mehdi Hamdam, Ardeshir Arash, Alireza Pilpayeh**

Paper Title: **Optimizing Hydro and Thermal Power Plants Using Genetic Algorithm**

Abstract: In recent years, various studies have been conducted on optimization of hydro and thermal power plants; however, due to the complexity of this problem, optimal operation of power systems consisting of hydro-thermal power plants with multi-purpose reservoirs, which is mostly resulting from their uncertain, non-convex, non-linear and dynamic nature, numerous simplifications and approximations have been applied in modeling these systems in order to provide the possibility of their analysis using mathematical methods. But, the result of these simplifications and approximations is distancing of the obtained models from practical operational realities of the system which limits application of their results. With progress of computational technology and advent of effective algorithms, more practical aspects of the system's real productivity can be used in optimization models. Considering the importance of this issue in the present work, a new method was presented for simultaneous long-term operational optimization of the system consisting of hydro-thermal power plants, in which main system parameters including water inflow to reservoirs of hydro power plants and energy demand of the system were uncertainly considered. In this paper, optimization of hydroelectric and thermal power plants was done using the algorithm and instructions of optimal operation were extracted.

Keywords: Hydrothermal power plant, Indefinite scheduling, Genetic algorithm, Optimization.

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30.

Authors: **Md Aboud Kadhim, Hazim Salah, Abdulsatar, Tahseen Flaih Hasan**

Paper Title: **Design of Fixed WiMAX Transceiver on SUI Channels Based Wavelet Signals**

Abstract: As the application for wireless communications increases, even in wideband and fast fading channels, there is always a need to develop systems that are more efficient and robust. The work done in this paper is our effort in this direction. Based on the wavelet transform, we develop an OFDM WiMAX system with good performance for Stanford University Interim (SUI) channels rich in multipath. As of fundamental wavelet transform characteristics and expressing the temporal and frequency information in two independent dimensions, delay and scale, we develop a theoretical system model for SUI channels. Considering the computational complexity, the models are designed using the Haar wavelet transform. Using the wavelet transform to calculate the channel delay information is the core component of the system .It is found that proposed wavelet design to attain much lower bit error rates, increases signal to noise power ratio (SNR), and can be used as an alternative to the conventional OFDM WiMAX. The proposed OFDM system was modelled tested, and its performance was found under different SUI channel models. This paper performs a new approach to the adaptation of the Fixed WiMAX IEEE802.16d base band, OFDM based on wavelet (DWT-OFDM) in SUI channel.

Keywords: WiMAX, SUI, OFDM, DWT, IDWT, FFT, IFFT.

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31.

Authors: **Harsh Raghuvanshi, N.S. Ramnaveen, Puneet Malhotra, Rakshit, Anurag Khatri**

Paper Title: **Innovative Design of an All-Terrain Vehicle (ATV)**

Abstract: This study aims to design of an All-Terrain Vehicle (ATV) in accordance with the SAE BAJA 2014 rule book. A detailed designing of components is carried out like Roll cage, Suspensions & Braking mechanism. The main focus of our was on Safety of driver & Stability of vehicle. Roll cage of our vehicle is designed in such a way that in case of rolling of vehicle (mostly occurs in high speed turns & off roading) that it will provide double the strength to the roll cage with also considering the Aesthetic of the cage. International standards are followed by us where ever possible and an extensive market survey is also done. Finite Element Analysis is carried out on roll cage & braking mechanism for optimum safety & reliability of the vehicle. Engine the heart of an automobile is installed in such a way that it can perform well for an extensive time on any terrain.

Keywords: Cooling duct, Ergonomics, Finite element Analysis & Von misses stress.

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32.

Authors: **Shahin Shaikh, Manjusha Deshmukh**

Paper Title: **Modulation of Watermark Using JND Parameter in DCT Domain**

Abstract: Digital Image watermarking is the process that embeds data called watermark in to multimedia object such that the watermark can be extracted or detected to make an assertion about the object. Watermarking is either "visible" or "invisible".

The growth of high speed computer networks and internets, in particular, explore the means of new business, scientific, entertainment and social opportunities. Ironically the cause for the growth is also of the apprehension use of digital formatted data. The ease with which the digital information can be duplicated and distributed has led to need for effective copyright tools. Various software products have been recently introduced in attempt to address these concerns. It is done by hiding data within digital audio, image and video files. Digital image watermarking is one of the way of data hiding techniques.

Watermarking can be done in spatial and transform domain. The basic problem in watermarking in spatial domain is that the watermark is more fragile i.e., more susceptible to attacks than transform domain. The reason for choosing the transform domain (DCT and DFT is that the characteristics of human vision system(HVS) are better captured by spectral coefficients. For eg. Low frequency coefficients are perceptually significant, which means alterations to those components might cause significant distortion to original image On the other hand, high frequency coefficients are considered insignificant: thus ,processing techniques such as compression tend to remove high frequency coefficients aggressively.

Keywords: Copyright protection, digital image watermarking, spatial domain, transform domain, Discrete Cosine Transform(DCT), Discrete Fourier Transform(DFT , Peak Signal to Noise ratio(PSNR), Correlation, Just Noticeable Distortion (JND), SSIM (Structural Similarity)

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33. **Authors:** **Hazim Salah Abdulsatar, Kareem Jabbar Tijil, Ali Hashim Jryian**

	Paper Title:	**Low power Transceiver Structure for Wireless and Mobile Systems Based SDR Technology Using MATLAB and System Generator**	
	Abstract: This paper presents the design and implementation of Software Defined Radio (SDR) transceiver based 16-QAM as one of the key techniques in structure of wireless and mobile communication system. The widely used of QAM in adaptive modulation due to efficient power and bandwidth force the researchers to found better and easy design by use the available software like MATLAB in order to advance the idea of software defined radio. The setting of parameter for random generator, QAM modulation and demodulation, AWGN wireless channel are provided. The Error rates of QAM system against the signal-to-noise ratio are used to evaluate the QAM system. The implementation results shows the system capability to transmitand receive intermediate frequency of 40 MHZ keeping the power under limited FPGA Slices and look up table (LUT). **Keywords:** SDR, QAM, MATLAB SIMULINK, Wireless and Mobile System, FPGA. **References:** 1. Pedro and Nuno, "Multi-Mode Receiver for Software Defined Radio", Institute of Telecommunication – University of Aveiro – Portugal, online available: http://www.anacom.pt/render.jsp?contentId=761239, 2008. 2. Pallavi, "Frame Work for the Design and Implementation of Software Defined Radio based Wireless Communication System", M.Sc. thesis, University ofAAkron: http://etd.ohiolink.edu/view.cgi/Mannar%20Manna, 2005. 3. Sun, "A Generalized Quadrature Bandpass Sampling in Radio Receivers", 0-7803-8736, IEEE Explore: pp.1288-1291, 2006 4. Shi and Ismail, "Data Converters for Wireless Standards", Springer, Kluwer Academic Publishers, ISBN-10: 0792376234, 2002 5. Tony, "RF and Digital Signal Processing for Software-Defi ned Radio", Elsevier, ISBN 978-0-7506-8210-7, UK, pp. 319, 2009 6. Avnet Memec, Inc.."Virtex-4 MB Development Board User's Guide",Ver. 3.0, Phoenix, Arizona, USA, pp1-42, Citing Internet sources URL: 7. http://www.files.em.avnet.com/files/177/v4mb_user_guide_3_0.pdf, 2005 8. Altera, "Understanding CIC compensation filters", application note 455, pp.1-17, Availabel: http://www.altera.com/literature/an/an455.pdf , 2007 9. Avnet, Inc."P240 Analog Module User Guide", Rev. 1.0, Phoenix, Arizona, USA, pp. 1-25. Citing Internet sources URL: Error! Hyperlink reference not valid, 2006 10. Amico, Matteis and Baschirotto, "A 6.4mW, 4.9nV/√Hz, 24dBm IIP3 VGA for a multi-standard (WLAN, UMTS, GSM and Bluetooth) receiver", 1-4244-0303, IEEE, pp. 82-85, 2006 11. Changrui, Kong, Xie Shige and Huizhi1, "Design and FPGA Implementation of Flexible and Efficiency Digital Down Converter", 978-1-4244-5900- IEEE, PP.438-441, 2010 12. Chan, Tsui, Yeung, and Yuk," Design and Complexity Optimization of a New Digital IF for Software Radio Receivers With Prescribed Output Accuracy" IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I: REGULAR PAPERS, VOL. 54, NO. 2, pp 351-366, 2007 13. Texas Instrument, Inc., "ADS5500: 14-bit, 125 Msps, A Analog-to-Digital Converter Data Sheet". Rev. G, Dallas, T Texas, USA, pp. 1-29. Citing Internet sources URL: http://focus.ti.com/lit/ds/symlink/ads5500.pdf, 2007 14. Texas Instrument, Inc.,"DAC5687: 16-bit, 500 Msps, 2x-8x Interpolation Dual-Channel Digital-to-Analog Converter Data Sheet". Rev. B, Dallas, Texas, USA, pp. 1-70. Citing Internet sources URL: 15. Xilinx, Inc., "System Generator for DSP User Guide", Release 9.2.01, San Jose, California, USA, pp. 1-346, 2007 16. Xilinx, Inc.,"DSP Design Flows in FPGA Tutorial Slides". San Jose, California, USA, pp. 1-82, 2003 17. Xilinx Inc.. "System Generator for DSP": User Guide, Release 10.1,Snn Jose, California, USA, PP.1-40: www.xilinx.com, 2008 18. Xilinx, Inc., "Xilinx ISE 9.2i Software Manuals: Constraints Guide, and Development System Reference Guide". San Jose, California, USA, pp. 1-844, 2007 19. Xilinx, Inc., "Virtex-II Pro and Virtex-II Pro X FPGA User Guide", Ver. 4.2, San Jose, California, USA, pp. 1-559. Citing Internet sources URL:http://www.xilinx.com/support/documentation/user_guides/ug012.pdf, 2003 20. Xilinx, Inc., "Spartan-3 FPGA Family Data Sheet", Ver. 2.5, San Jose, California, USA, pp. 1-217. Citing Internet sources URL: http://www.xilinx.com/support/documentation/data_sheets/ds099.pdf, 2006 21. Xilinx, Inc., "Timing constraints User Guide", Ver. 11.1.1, san Jose California, USA, pp. 1-137, Citing Internet sources URL: 2009. http://www.xilinx.com/support ort/documentation /sw_manuals/xilinx11/ug612.pdf A	**162-167**
34.	**Authors:**	**Fereridoon Owfi, Hodeis Abbasi Ghadikolaei, Mahnaz Rabbaniha, Maryam Abbasi Ghadikolaei**	
	Paper Title:	**The first Record and Reports of Nettastomatidae Identification in Iranian Museums of the Persian Gulf and Oman Sea's Waters**	
	Abstract: Nettastomatidae from Anguiliformes order was a part of fish fauna in the Persian Gulf and Oman Sea. It has commercial and nourishing value. This research revising the samples classification and systematic specimens of Nettastomatidae in south coast of Iran such as: Bushehr, Chabahar, Bandar Abbas, Bandar lengeh and the rest from museums, Universities and Research centers in Iran form2007-2008.The whole Ichthyology valid published references in this area (Fishing area51) were considered. The result showed that: Among 27 eel's samples one sample is in Nettastomatidae family's .Hoplunis diomedianus (Good & Bean, 1896) was record and reported for the first time in the Persian Gulf and Oman Sea's of Iranian waters. **Keywords:** Nettastomatidae, systematic review, Persian Gulf, Oman Sea **References:** 1. AL-Abdesalaam, T.Z, 1995. Marine species of the sultanate of Oman Marine science and fisheries center, oman.p234-236,246-247. 2. Belgvad and Loppenthin , 1937.Volum on the fishes of the Iranian Gulf(1944).part III of Danish Scientific Investigation in Iranian Gulf,12col,pls.copenhagen. 3. Biswas, s.p., 1993.Manual of methods in fish biology. South Asia. Publishers' .pvt. Ltd. Newdelhi, 195p. 4. Bianchi, G.1995.Field guide to the commercial marine and brackish water of Pakistan.FAO.Rome.p15-18 5. Coad, W. B, 1992, Check list & Bibliography in Persian Gulf fish, 6. Carpenter, K.E., F.kurp p, O.A.Jones and Zajonz, 1997.Living marine resource of Kuwait, Stern Saudi Arabia, Bahrain, Qatar and United Arab Emirates.Rome.P106-109. 7. Dehghani ,N., and Asadi, 1996. Persian Gulf and Oman Sea fishes publishedfrom Iranian Scientific &Research organization, Tehran.pp:350. 8. FAO, 1986.Review of the fish stated of the world fishery resources; Marine fisheries.Western Indian Ocean (FAO Statistical Area 51), Rome. Italy 9. FAO, 1997.FAO fisheries circular No.920 FIRM/C920. ISSN0429-9329.(FAO Statistical Area 51) Rome. 10. Fischer, W. and Bianchi, G., 1984.FAO species Identification sheets for fishery purposes western Indian ocean (fishing area51), volum1.Rome.p 6- 7.	**168-171**

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35.

Authors: **Shadeeda Nalakath, Sreeja Rajesh**

Paper Title: **Ranking Spatial Data by Quality Preferences**

Abstract: The objects in real world can be ranked based on the features in their spatial neighborhood using a preference based top-k special query. In this paper, a two purpose query structure for satisfying the user requirements is implemented. For example, a user who wishes to find a hotel with 3 star categories that serves sea food which provides the nearest airport facility. This concept can be obtained by developing a system that takes a particular query as the input and displays a ranked set of top k best objects that satisfy user requirements. For that, an indexing technique R-tree and a search method BB algorithm for efficiently processing top-k spatial preference query is used. R-tree (Real-tree), a data structure is the first index specifically designed to handle multidimensional extended objects and branch and bound (BB) algorithm that makes searching easier, faster and accurate. The key idea is to compute upper bound scores for non-leaf entries in the object tree, and prunes those that cannot lead to better results. The advantage of using this algorithm is that it can reduce the number of steps to be examined.

Keywords: Query processing, spatial databases, R-tree.

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Authors: **S. D. More, C. M. Kale, A.B.Shinde, K. M. Jadhav**

Paper Title: **Role of Cr3+ Substitution on Electrical and Dielectric Behavior of Cu-ferrite Nanoparticles**

Abstract: Chromium substituted copper ferrite nano particles with generic formula CuCrxFe2-xO4 (x = 0.0, 0.2, 0.4, 0.6, 0.8, 1.0) have been synthesized successfully in nano-crystalline form by wet chemical co-precipitation method. The as prepared powder of CuFe2-xCrxO4 was sintered at 800 0C for 12 h. X-ray diffraction (XRD) technique was employed to investigate the structural properties and to check the phase purity of the prepared samples. The analysis of XRD patterns revealed the formation of single phase cubic spinel structure for all samples. The average crystallite size of all samples was estimated using Scherrer's formula and it is in the order of 30-40 nm. The lattice parameter obtained by using XRD data decreases with chromium substitution. The temperature dependence of d. c. electrical resistivity of all samples was studied by using two probe methods. The resistivity increases with increase in chromium substitution and as temperature increases resistivity decreases. The dielectric properties were investigated as a function of frequency at room temperature using LCR-Q meter. The dielectric constant (□'), dielectric loss (□") and dielectric loss tangent (tanδ) decreases with increase in frequency.

Keywords: Resistivity, Spinel ferrite, Nano-crystalline, X-ray diffraction.

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37.

Authors: **Negin Keshavarznia, Rahim Sarvar, Masud Mahdavi**

Paper Title: **Environmental Impacts of Second Home Development on Damash Village in Gilan Province, Iran**

Abstract: One of the most important issues which have received particular attention from geographers is examining the effects of spending times on taking vacation and tourism. This issue has led to development of second homes in rural and urban areas. Emphasizing the environmental effects of second home expansion, this research is aimed at studying the impact of such holiday homes on rural areas of Damash Village in Gilan Province, Iran. Present applied study was conducted based on descriptive- analytical methodology; also, the required data were gathered through two questionnaires, one designed for rural people (170 families) and the other for nonnative owners of second homes (60 families). The findings showed that second home development had by far much more negative impacts on rural communities were than the positive ones.

Keywords: Environmental Impact, Second home, Damash, Gilan,

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38.

Authors: **Anjana Bhardwaj, Swati Gupta**

Paper Title: **Design and Comparative Analysis of Conventional Adder and Pipelined Adder**

Abstract: Adding two binary numbers is a basic operation in binany electronic processing system. Pipelining digital systems has been shown to provide significant performance gains over non-pipelined systems and remains a standard in microprocessor design. The desire for increased performance has seen a push for pipelines. Pipelining is considered to be a good technique for increasing the circuit speed. In this paper, 4-bit conventional adder and 4-bit pipelined adder has been implemented using Cadence virtuoso tool and simulation was performed using the generic 0.18 µm CMOS Technology at 5V. For comparison purposes, various parameters such as delay time, rise time and fall time has been compared which shows that pipelined adders are more efficient in terms of speed, power and throughput.

Keywords: Pipelining, Full Adder, Binary Adder.

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39.

Authors: **K. Vijay Kumar, R.Rajeshwara Rao**

Paper Title: **Online Handwritten Character Recognition for Telugu Language Using Support Vector Machines**

Abstract: A system for recognition of online handwritten telugu characters has been presented for Indian writing

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systems. A handwritten character is represented as a sequence of strokes whose features are extracted and classified. Support vector machines have been used for constructing the stroke recognition engine. The results have been presented after testing the system on Telugu scripts.

Keywords: Online Handwritten Character, Recognition, Stroke, feature extraction, Support Vector Machine.

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40.

Authors:	**Omer Khalil Ahmed, Ahmed Hassan Ahmed, Khalil Ibrahim Mohammad**
Paper Title:	**Experimental Investigation for the Performance of Simple Solar Still in Iraqi North**

Abstract: The aims of this research to present the possibility of using simple solar still to distillation of saline water in the northern areas of Iraq as well as to verify the reliability of research results published in the past to reach the standard adopted in determining the operational variables which affecting on the performance of solar still. A series of tests to demonstrate the effect of the thickness of water in the basin on the productivity of solar still, the study showed productivity distilled rely mainly on the thick layer of water and it was also noted that the presence of local wind reduces the performance of solar still, but slightly. The presence of dye in the water was reduced the productivity of still and therefore, this option is not desirable to reach an improvement in the still productivity, except in the case of the use of special pigments to absorb large quantities of solar radiation, which imported materials and increase the cost of distillation. It also increased the salinity of the water in the basin of still leading to reduction in productivity and this reduction increased with the increased concentration of salt.

Keywords: Effect of operational variables, Solar still, Performance of,

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Authors:	**G.N.Lokesh, M.Ramachandra, K.V.Mahendra**
Paper Title:	**Production of Al-4.5% Cu Alloy Reinforced Fly Ash and SiC Hybrid Composite by Direct Squeeze Casting**

Abstract: Today the use of composites will be a clear choice in many instances especially in automobile and aerospace sector. Material selection in others will depend on factors such as working life span necessities, number of items to be produced, convolution of product shape, possible savings in assembly costs and on the experience & skills of the designer in drumming the optimum potential of composites. Composites produced using waste as reinforcements helps not only clearing environmental issues but also helps in increasing mechanical properties of the composites. One of the inexpensively available and also coming as waste form thermal power plant is fly ash. In the present investigation fly ash and SiC reinforced Al-4.5% Cu composites containing 2%fly ash with 2,4,6% SiC and 4%fly ash with 2,4,6% SiC fabricated by direct squeeze casting technique. The composites was analysed by measuring the hardness, tensile, compression, impact and wear behaviour. Microstructure of the composites was observed by scanning electron microscope (SEM). The results indicate that the hardness, tensile, compression, impact and wear resistance increases with increase in percentage of fly ash and SiC. Microstructure shows better bonding between matrix particle interface and no fracture observed.

Keywords: Squeeze Casting, Fly Ash. Tensile Strength, Compression Strength, Wear.

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Authors: **S.Tamilselvan, S. Savitha, D. Prabakar**

Paper Title: **An Efficient Spectrum Sharing and Interference Reduction for Cellular Network**

Abstract: To utilize spectrum resource more efficiently in a cellular network is very difficult. So to improve the resources, adhoc device to device communication was introduced. Interference management is a major component in designing these spectrum sharing schemes and it is critical that the licensed users maintain their QoS. A distributed dynamic spectrum protocol is proposed in which device to device users can communicate directly with each other and access the spectrum more efficiently. Network information is distributed by route discovery packet in a random access manner to establish the single hop or multihop link between D2D users. The discovery packet which contains network information will decrease the failure rate of the route discovery and also reduces the number of transmissions to find the route. The Performance metrics such as the route discovery failure probability and the number of transmission necessary to discover a route to the destination are to be analyzed. Finally using the found route, the simulation result shows that two D2D users can communicate with a low probability of outage and also reduces harmful interference to the macro users. The proposed protocol can be significantly achieved power saving using D2D route rather than connecting to the cellular base station. So spectrum resources are shared more efficiently between the macro user and device to device user.

Keywords: Device-to-device, spectrum sharing, power control, interference management, route discovery.

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43.

Authors: **S. Tamilselvan, R. Gajalakshmi, D. Prabakar**

Paper Title: **Cooperative Relay Based Resource Allocation for OFDMA Network**

Abstract: Cooperative relaying is a promising technique for Long Term Evolution Advanced (LTE-A) networks to satisfy high throughput demand and support heterogeneous communication services with diverse quality-of-service (QoS) requirements. Optimal relay selection, power allocation and sub carrier assignment scheme under a total power constrain is proposed for a Qos aware resource allocation for multi user cooperative OFDMA network. The relay selection, power allocation and subcarrier assignment problem are formulated as a joint optimization problem with the objective of maximizing system throughput. User at the cell edge and shadowing degrade the signal quality, hence cooperative relaying is very promising solution to provide better throughput and coverage extension. Combining OFDMA and cooperative relaying assures high throughput enhancement for user at cell edge .Throughput enhancement problem is solved by two level dual composition and sub gradient method. To further reduce the computational cost, low complexity suboptimal schemes are also proposed in this work. Simulation result indicates that the proposed scheme will guarantee the users Qos requirement and maximize the system throughput.

Keywords: OFDMA network, cooperative relaying, relay selection, resource allocation, joint optimization, QoS, LTE-A.

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44.

Authors:	**Jinang M.Patel, Krunal J.Patel,Vatsal V.Patel, Kalpesh V.Vaghela**
Paper Title:	**Performance studies of Tire Pyrolysis Oil blends with Diesel Fuel**

Abstract: The present rate of consumption of gasoline would lead to severe shortage of it within next few decades. An urgency of finding an alternative fuel in its place has led to several researches around the world. In this study oil obtained from pyrolysis of waste tire was studied upon for its suitability to be used with diesel fuel. A study was carried out to evaluate the use of various tire pyrolysis oil (TPO) blends with diesel fuel. Performance and emission characteristics of TPO blends with diesel on a 4 cylinder direct injection engine are presented in this study. In the initial stage the test were conducted on four stroke single cylinder diesel engine by using diesel and base line data was generated .A constant speed off 1500rpm was maintained throughout the experiment. Then commercially available TPO was blended with diesel fuel at the volumetric ratios of 5 %(D5), 10% (D10) and15 %(D15).The results showed that brake thermal efficiency of the engine was maximum for D10 blend than diesel at same loading conditions. The BSFC was also found to be less for D10 blend compared to diesel. There was no significant increase in exhaust gas temperature for the blends as compared to diesel.

Keywords: Compression ignition engine, Tire pyrolysis oil, Performance Characteristics, Brake thermal efficiency, Brake specific fuel consumption

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4. International Journal of Engineering Research & Technology (IJERT) Vol. 1 Issue 4, June – 2012 Mr.Tushar Patel 1Student, L.D.R.P engineering college, Gandhinagar

45.

Authors:	**Talebzadegan Mohsen, Abodi Ali, Riazi Iman**
Paper Title:	**Feasibility of Using Impressed Current Cathodic Protection Systems by Solar Energy for Buried Oil and Gas Pips**

Abstract: Cathodic protection mostly used to protect buried structures of oil and gas pipes in oil and gas industries from corrosion. Cathodic protection by impressed current method includes the formation of an electrolyzed system in which anode and cathode is obtained by direct current generator. installing one or more anodes of cast iron adjacent

to a structure and the structure and the anode(s) are connected respectively to negative and positive poles of the supply. In the present study, by collecting actual soil data of the region, mechanical specifications of oil transfer pipes and their coating in Ahwaz region and also using available calculations and manuals regarding types of anodes and solar panels and batteries in the market a region-specified solar Cathodic protection method was designed. By calculations, the best type of solar panel (AT-50), number of panels and their voltage and produced current were obtained 42, , 52.2V and 40.04 A, respectively. The proposed battery is sealed lead acid type with number, voltage and current of 4, 48V and 250 A, respectively.

Keywords: Cathodic protection-impressed Current-buried pipe

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46.

Authors: **Hazim Salah Abdulsatar**

Paper Title: **Simulation and Implementation of Orthogonal Frequency Division Multiplexing (OFDM) Model Based SDR**

Abstract: An OFDM transceiver based on software defined radio (SDR) techniques is modeled by MATLAB in this paper. The modulated input data using orthogonal subsidiary companies , with carrier frequency 70MHz. After contaminating the signal with noise , and re- sampling - the received signal and convert it to a digital system to extract the original information . Results obtained tend to increase in the signal to noise ratio , and improve the planned constellation of the received signal and bit error rate (BER) of the system decreases to zero when the S / N ratio greater than 12dB. FPGA to implement a complete SIMULINK model first and then generate HDL code and DSP design tool from XILINX, and the results will be obtained from MATLAB and FPGA be approximately equal .

Keywords: OFDM, Software Defined Radio, MATLAB- SIMULINK.

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47.

Authors: **Basim Khalaf Jarullah, Izz Kadhum Abboud, Kareem Jabbar Tijil**

Paper Title: **Simulation of Speech Denoising based on Voiced/ Unvoiced Decision by Using DWP**

Abstract: In this paper, a speech denoising system using wavelet packet thresholding algorithm is investigated. This method is based on thresholding the wavelet coefficients that depend on voiced/unvoiced detection. Wavelet threshold can be done by a standard deviation method for each frame by level dependent thresholding using semisoft threshold in the additive Gaussian noise channel. The results of simulation indicate that using Discrete Wavelet Packet (DWP) in speech denoising application provides a quality better than Discrete Wavelet Thresholding (DWT) and voiced/unvoiced detection enhanced the performance of the system.

Keywords: DWP, DWT, Matlab.

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48.

Authors: **Hutashani B. Rayate, Vidya V. Deshmukh**

Paper Title: **Prediction of Acute Hypotension Episode**

Abstract: Acute hypotensive episodes (AHE) are serious clinical events in intensive care unit. It causes damage of irreversible organ and may lead to death. When occurrence of an Acute Hypotension Episode (AHE) is predicted in advance, an appropriate intervention can reduces the risk for patient. The prediction is to be made using two groups of ICU patient records from the MIMIC II Database from the Physionet. The physionet challenge is divided into two parts. The first part is to distinguish between patients who have experienced acute hypotension episodes and patients who do not. The second part of this challenge is to predict acute hypotension episodes. We here present an algorithm for prediction of AHE using mean arterial blood pressure (MAP). We then used information divergence (or Kullback-Liebler divergence) between two distributions to identify the most discriminative features. The objective of this work is to describe an automated statistical method that produces an automated method to predict AHE using the least data possible.

Keywords: Hypotension Prediction, Information Diversion, K-L Diversion theorem, Mean Arterial Blood Pressure.

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Authors: **Akhmad Azis, Hamzah Yusuf, Sugiarto Badaruddin**

Paper Title: **The Effectiveness of Sand Column Utilization in Recharge Reservoir as Seawater Intrusion Barrier**

Abstract: Excessive groundwater exploitation may cause groundwater decline and induce the landward movement of seawater in coastal aquifer and generate sea water intrusion. One of the efforts to overcome sea water intrusion is groundwater recharge using recharge reservoir. In this research, a recharge reservoir is built on an area with permeability coefficient less than 10-5 cm/sec, analyzed using sand column model and put on the recharge reservoir base which is directly connected to the aquifer layer. The objective of this research is to explore the utilization of sand column subject to the amount of groundwater recharge obtained. This research is an experimental laboratory study that includes the main recharge reservoir model with and without sand column. The data resulted from the research consists of recharge rate entering the aquifer within various parameters: head level differences, sand column or soil layer thickness, and sand column density. Each parameter consists of three variables. Results of the research showed that the maximum debit obtained was 62.41 cm3/sec with 0.00157 of sand column density, 37.4 cm of head difference and sand column height is 30 cm. It is expected that results of this study are applicable and can be implemented in the field scale to cope with the problem of sea water intrusion.

Keywords: Recharge reservoir, sand column, sea water intrusion.

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Authors: **Ishwarya M.V, K.Ramesh Kumar**

Paper Title: **Secure Anonymization for Privacy Measure**

Abstract: In this paper we are going to discuss about the privacy preservation of Patients details in a medical centre. The medical centre may have various login for various people like Administrator,Doctor,Analyst and Receptionist .We design a model such that the patients entire details are not known to everyone who logins with their id.It is available in a suppressed form to each and everyone who logs in .All the patients data are being split using Slicing algorithm and shuffled and stored in different databases in encryption side.The data are realigned and deshuffled and the original data are retrieved in the decryption side.

Keywords: Privacy preservation, Authentication, Security, Slicing, Shuffling

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51.

Authors: **Ishwarya M.V, K.Ramesh Kumar**

Paper Title: **Literature Survey for Secure Anonymization**

Abstract: In this paper we are going to discuss about the privacy preservation of Patients details in a medical centre . The medical centre may have various login for various people like Administrator,Doctor,Analyst and Receptionist .We design a model such that the patients entire details are not known to everyone who logins with their id.It is available in a suppressed form to each and everyone who logs in .
All the patients data are being split using Slicing algorithm and shuffled and stored in different databases in encryption side.The data are realigned and deshuffled and the original data are retrieved in the decryption side.

Keywords: Privacy preservation, Authentication, Security, Slicing, Shuffling.

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52.

Authors: **Arushi Jain, Aakansha Bansal, Palak Jain, Neha Sharma**

Paper Title: **Importance and Quality Evaluation of Metadata**

Abstract: Metadata usually called data about data represents information about data to be stored in a data warehouse. Importance of metadata arises from the fact that it is needed to map data from source systems to data warehouse with the help of Extraction Transformation Loading (ETL) tools. Metadata helps in developing consistency in data collection and usage and moreover provides the foundation for Data Change Management. It facilitates user to have faster and more accurate access to the data that is needed. Metadata also plays an important role in real world environment as seen in case of legal system nowadays that focuses on preservation of data about its records i.e. metadata so that the validity and admissibility of evidences can be ensured. This paper intends to find a better and more efficient way to determine the importance of metadata in the data warehouse and thus performs its quality evaluation.

Keywords: Consistency, Data Change Management, ETL, Metadata.

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Authors: **Falah Hasan**

Paper Title: **Programmable Decimation Filter Design For Multi-Standards Software Defined Radio (SDR) Reciever**

Abstract: This Paper Investigates The Design Of Programmable Decimation Filters To Be Used In The Channelizer Of Multi-Standard Software Defined Radios Receivers. The Technique Of New Algorithms For Reducing The Passband Ripple Of Linear Phase Fir Digital Filters Which Minimizes The Passband Deviation In The Decimation Block Is Introduced And Is Used To Implement A Multistage, Multi-Standard Decimating Filter. The Design Will Enhanced Different Communications Standards And Is Thus Ideal For Use In Systems Which Support Dynamic Reconfiguration. Results Obtained Shows An Important Reduction In The Passband Ripple In The Decimation Part From 0.03 Db To 0.012 Db And High Reconfigurability In The Filtration Requirements.

Keywords: FIR, SDR, Digital down-converter, GSM, Equiripple FIR, passband ripple, adjacent band rejection, blocker requirements.

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TRANSACTIONS ON SIGNAL PROCESSING, VOL. 46, NO. 6, pp. 1676- 1681.

54.

Authors: **Komal Gandle, Pallavi Kulkarni**

Paper Title: **Intrusion Detection System Based On Improved One versus All Data Stream Classification**

Abstract: With the marvelous development of information Technology & Network Security the Intrusion Detection (ID) has rapidly become a crucial component of any network defense strategy. Data Stream Classification is the superlative method for revealing of Intrusion Detection (ID). Improved One Versus All (OVA) is one of the multiclass classification techniques On the basis of this we propose the system on Network Intrusion Detection (NID) for security in network as well as computer. In this paper, improved one versus all decision tree algorithms identifies the behavioral attacks actions and newly arising attacks of intrusions. This paper addresses the excellent advantages of Improved OVA data stream classification such as Low error correlation and concept change. Also propose a new learning algorithm for illuminating of network intrusion Detection.

Keywords: Improved OVA decision tree, Intrusion Detection (ID)

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55.

Authors: **Siddeeq Y. Ameen, Shayma Wail Nourildean**

Paper Title: **Wireless Local Area Network VLAN Investigation and Enhancement Using Routing Algorithms**

Abstract: Wireless LANs, WLANs, are vulnerable and witnessed numerous types of threats. These can be avoided via several security technologies such as WEP, 802.11i and WPA. These technologies have draw backs on performance and an alternative approaches that might have less impact on performance is the Virtual Local Area Network (VLAN). The paper introduces the integration of VLAN into WLAN system. The use of VLAN will provide the security to the system by isolating the access and grouped in such away that avoid any group from accessing unauthorized station in other group. OPNET Modeler (14.5) was used as a simulation program for this study. In the investigation, the effect of VLAN technology on decreasing the traffic in the system of the WLAN has been investigated. In the investigation also the delay, throughput, traffic sent and received with Email and Web browsing applications have been computed and compared with the conventional case of no VLAN. The results show that use of VLAN greatly reduces the throughput. This problem has been resolved via the use of routing algorithms, AODV, OLSR and DSR. The results of employment of routing algorithms with VLAN over WLAN have been investigated the enhancement in throughput has been achieved.

Keywords: WLAN, VLAN, AODV, OLSR, DSR.

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Authors: **Pamnani Nanak J., Verma A.K., Bhatt Darshana R.**

Paper Title: **Comparision between Mechanical Properties of M30 Grade Self Compacting Concrete For Conventional Water Immersion and Few Non-Waterbased Curing Techniques**

Abstract: Self-Compacting Concrete (SCC) is highly workable concrete with high strength and high performance that can flow under its own weight through restricted sections without segregation and bleeding. SCC is achieved by reducing the volume ratio of aggregate to cementitious materials, increasing the paste volume and using various viscosity enhancing admixtures and superplasticizers. It is observed that the behaviour of the design concrete mix is significantly affected by variation in humidity and temperature both in fresh and hardened state. In this paper effect of three non-water-based curing techniques on mechanical properties such as compressive strength, split tensile strength, flexural strength and shear strength of M30 grade self-compacting concrete (SCC) is discussed.
For compressive strength it is observed that immersion method for curing gives maximum compressive strength while the lowest compressive strength is for no curing. Polyethylene film curing gives second highest strength at 28 days.
Similarly for split tensile strength, flexural strength & shear strength, the maximum strength is also with immersion method of curing. For split tensile strength curing compound gives almost at par with immersion method while no curing has least strength. Polyethylene film curing gives good results for flexural strength. For shear strength Polyethylene film gives about 82% of immersion strength.
It is concluded that although pond immersion method is best for curing, Polyethylene film and curing compound can deliver more than 90% compressive and other strengths compared to immersion method.

Keywords: Self compacting concrete, immersion curing, Polyethylene film wrap, curing compound, curing period, compressive strength, split tensile strength, flexural strength, shear strength.

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Authors: **Ajayi Adebowale, Idowu S.A, Otusile Oluwabukola**

Paper Title: **An Overview of Database Centred Intrusion Detection Systems**

Abstract: Intrusion detection systems have become a major component of network security infrastructures. Modern day intrusion detection systems are to be reliable, extensible, adaptive to the flow of network traffic and to have a low cost of maintenance. Over the years researchers have looked upon data mining as a means of enhancing the adaptability of an intrusion detection system, as it enables the IDS to discover patterns of intrusions and define valid bounds of network traffic. Despite the effectiveness of data mining based IDS it is riddled with challenges; instrumenting components such as data transformations, model deployment, and cooperative distributed detection remain a labor intensive and complex engineering endeavor. This has lead to research efforts into integrating this technology with traditional database systems. This paper gives an overview of database centered intrusion detection systems.

Keywords: Database systems, Data mining, Intrusion detection systems, Network security.

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Authors: **Shital S. Chopade, Pradhuman Verma, Prashant Verma**

Paper Title: **Simulation of Boiler Control using PLC & SCADA**

Abstract: The purpose of this paper is to present a programmable logic controller (PLC) control system that is applied to the water tube boiler which will increase high quality and greater efficiency.
This system monitors boiler`s temperature and pressure and volume via different sensors which provide input to PLC. The output of PLC controls the boiler temperature and pressure and gives out the user required volume of steam.
All pressure and temperature variations are shown on SCADA screen and are controlled through SCADA. Different automated check valves are used to release pressure and to inform the concerned authority through alarm in case of an emergency.

Keywords: (PLC) SCADA.

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Authors: **Sibarama Panigrahi, H. S. Behera**

Paper Title: **Effect of Normalization Techniques on Univariate Time Series Forecasting using Evolutionary Higher Order Neural Network**

Abstract: Over the last few decades, application of higher order neural networks (HONNs) to time series forecasting have shown some promise compared to statistical approaches and traditional neural network (NN) models. However, due to several factors, to date, a consistent HONN performance over different studies has not been achieved. One such factor is preprocessing of time series before it is fed into HONN models. Normalization is one of the important pre-processing strategies which have a significant impact on forecast accuracy. Despite its great importance, there has been no general consensus on how to normalize the time series data for HONN models. This paper investigates how to better normalize the univariate time series for HONN models especially, the Pi-Sigma network (PSN). For this five different normalization technique (Min-Max, Decimal Scaling, Median, Vector and Z-Score) are used to normalize four univariate time series and corresponding forecast accuracy are measured using an evolutionary Pi-Sigma network. Results show that forecast accuracy using HONN models depends on the normalization technique being used. It is also noted that with PSNs, decimal scaling and vector normalization techniques provide statistically meritorious results compared to other normalization techniques.

Keywords: Normalization, Higher Order Neural Networks, Pi-Sigma Network, Differential Evolution, Time Series

Forecasting.

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Authors: **S. H. Rahangdale, A. K. Mittra**

Paper Title: **Vibroarthrographic Signals De-Noising Using Wavelet Subband Thresholding**

Abstract: Externally recorded knee-joint vibroarthrographic (VAG) signals bear diagnostic information related to degenerative conditions of cartilage disorders in a knee. The VAG technique is passive and can be used for long term monitoring. In order to improve the diagnostic capabilities of VAG, robust signal processing techniques are needed for de-noising of the signals. Traditional de-noising techniques apply a linear filter to remove the noise and interference from the VAG signals. These methods have certain limitations for the non-stationary VAG signals. In this paper, an improved technique for de-noising of VAG signals is presented. The acquired VAG signals are decomposed, de-noised and reconstructed by utilizing matlab wavelet transform toolbox. The proposed approach improves the signal to noise ratio (SNR) of these signals. The presented technique can be used in pre-processing stage of all VAG based knee joint monitoring and screening of articular cartilage pathology.

Keywords: Wavelets, de-noising, vibroarthrographic signal, knee-joint.

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Authors: **Mohamed R. Afify, Noha M. Soliman**

Paper Title: **Feasibility of Using Lightweight Artificial Course Aggregates in the Manufacture of R. C. Elements**

Abstract: In recent years lightweight concrete is considered as one of the most important materials in the special concrete groups. It has extensive applications in the architect and insolation work. Lightweight aggregates and chemical admixtures play an important role in the production of lightweight concrete. New artificial course aggregate has been recently developed and has the attention of the researches to be used in the manufacture of lightweight concrete. This research was conducted to determine the feasibility of lightweight aggregate type commercially available in the Egyptian market in the concrete industry. Plan concrete specimens as well as reinforced concrete beams and slabs cast with concrete containing such lightweight aggregate were cast and tested in the research. The main variable taken into consideration were the aggregate type, cement and water content as well as the chemical and mineralogical admixtures content. The percentage of reinforcement of the beams and slabs tested were also taken in to consideration. The mechanical properties of fifteen concrete mixes were determined. The structure behavior of the tested beams and slabs were investigation with special attention to their deflections, longitudinal strain and cracking under different stages of loading as well as the ultimate loads and modes of failure.

Keywords: Lightweight concrete, lightweight aggregate, foam, new artificial course aggregate, compressive strength, R. C. Beams and R. C. Slabs

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62.

Authors: **Henny Pratiwi Adi, Moh Faiqun Ni'am**

Paper Title: **Identifying Essential Skills Requirement in Indonesian Construction Sector**

Abstract: Labors is one of important element in construction projects implementation. Labors should have a good basic skills to be able to use the skills on the field work effectively, this capability is referred as essential skills. This study aims to identify essential skills needed to work on the construction sector in Indonesia, on the job of carpenters, bricklayers, plumbers and painters building. Data was collected through interviews and distributing questionnaires to users of Indonesian construction labors in Indonesia. Respondents were asked to provide an assessment of the essential skills required by their importance for the construction project. Determination of essential skills ranking were analyzed with the Relative Importance Index (RII). The results showed that the essential skills needed on the job of carpenters, bricklayers, plumbers and painters are numeracy, thinking, working with others and continuous learning.

Keywords: essential skills, construction labors.

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63.

Authors: **Komal Sachdeva**

Paper Title: **Public Key Cryptography with Knapsack Systems**

Abstract: The Paper Public Key Cryptography with Knapsack Systems involves the introduction to the Conventional Cryptography describing the concept of Plain Text, Cipher Text, Encryption, Decryption, Keys, Substitution, Transposition, Symmetric Key and Asymmetric Key Systems. The main focus is on Public Key Cryptography and one such technique for the encryption and decryption of the message, Knapsack Systems is discussed in the paper with the mathematical description.

Keywords: Knapsack Systems is discussed in the paper with the mathematical description.

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64.	**Authors:**	**D.Devasena, P.Lakshana, A.Poovizhiarasi, D.Velvizhi**	
	Paper Title:	**Controlling Of Electronic Equipment Using Gesture Recognition**	
	Abstract: Gesture recognition is a technology which is aimed at interpreting human gestures with the help of mathematical algorithms. In general, consumer electronic equipment use remote control for user interfaces. Replacing the remote control system by means of hand gestures is an innovative user interface that resolves the complications in usage of remote control for domestic appliances. The proposed model deals with using hand gesture to perform the basic controls in electronic equipment like TV and laptop. This type of user interface using gesture has advantages of ease of access and human machine interaction. Gestures are a natural form of communication and are easy to learn. However using gestures to control electronic equipment requires gesture recognition algorithm and adequate hardware relating to it. **Keywords:** Gestures, Gesture Control, Gesture recognition, Laptop control, LabVIEW. **References:** 1. SoonmookJeong, Jungdong Jin, Taehoun Song, Keyho Kwon, Jae WookJeon, (2012) 'Single Camera Dedicated Television Control System using Gesture Drawing', IEEE Transactions on Consumer Electronics, Vol. 58, no. 4, pp. 1129 -1137. 2. K. K. Cheong, I. S. Kim, S. K. Park, and Y. J. Park, (2011) 'User performance measures for evaluating interactive TV pointing devices', IEEE Trans. Consumer Electronics, Vol. 57, no. 3, pp. 1236-1244. 3. N. Henze, A. Locken, S. Boll, T. Hesselmann, and M. Pielot, (2010) 'Free-hand gestures for music playback: deriving gestures with a user-centered process', Proceedings of the 9th International Conference on Mobile and Ubiquitous Multimedia, no. 16. 4. Y. M. Han, (2010) 'A low-cost visual motion data glove as an input device to interpret human hand gestures', IEEE Trans. Consumer Electronics, Vol.56, no. 2, pp. 501-509. 5. D. W. Lee, J. M. Lim, S. W. John, I. Y. Cho, and C. H. Lee, (2009) 'Actual remote control: a universal remote control using hand motions on a virtual menu', IEEE Trans. Consumer Electronics, Vol. 55, no. 3, pp.1439-1446. 6. A. Wilson, and N. Oliver, (2003) 'GWindows: robust stereo vision for gesture based control of windows', ICMI 03, pp. 211-218. 7. M. Moyle, and A. Cockburn, (2003) 'The design and evaluation of a flick gesture for 'back' and 'forward' in web browsers', Proceedings of the4th Australasian User Interface Conference on User Interfaces, Vol. 18,pp. 39-46.	**312-315**
65.	**Authors:**	**A.Vjay Kumar, T.V. Rajini Kanth**	
	Paper Title:	**Estimation of the Influence of Fertilizer Nutrients Consumption on the Wheat Crop yield in India- a Data mining Approach**	
	Abstract: The forecasting of agricultural yields is a challenging and desirable task for every nation. In Indian economy agriculture sector has a major role. In the total India rural population above seventy percent of the population depends on the agriculture to lead their lives. In the index of the Indian exports, agriculture exports stood at the fifth place. Today agriculture farmers are not only producing yields but also producing the agriculture data. This data can be collected, stored and analyzed for the useful information. In the present paper an attempt is made to apply the data mining techniques to extract useful information from the agriculture dataset of the annual measurements of the fertilizer nutrients consumed and wheat crop yields in India. The present experiment is based on the data collected from the sources like the Department of Agriculture and Statistics, Government of India and Department of Agriculture and Co operation, Government of India. The results of the present paper proved that the fertilizer nutrients consumed are the most influential factors of the wheat crop yield in India. **Keywords:** Yield estimation, Data mining, precision agriculture, regression and regression analysis **References:** 1. "Data mining Techniques for Predicting Crop Productivity – A review article" S.Veenadhari, Dr.Bharat Misra, Dr. CD Singh IJCST Vol. 2, Issue 1,March 2011. 2. Chengquan Huang, Limin Yang, Bruce Wylie, and Collin Homer. "A strategy for estimating tree Canopy density using landsat 7 etm+ and high resolution images over large areas". In the proceedings of the Third International Conference on Geospatial Information in Agriculture and Forestry, 2001. 3. Georg Ruß, Rudolf Kruse, Peter Wagner, and Martin Schneider. "Data mining with neural networks for wheat yield prediction. In Petra Perner, editor, Advances in Data Mining (Proc. ICDM 2008)", pages 47–56, Berlin, Heidelberg, July 2008, Springer Verlag. 4. R S Deshpande "An Analysis Of The Results Of Crop Cutting Experiments,Agricultural Development and Rural Transformation Unit" Institute for Social and Economic Change February 2003. 5. Georg Ruß "Data Mining of Agricultural Yield Data: A Comparison of Regression Models, ICDM'09",. Leipzig, Germany, July 2009. 6. V. Ramesh and K. Ramr "Classification of agricultural land soils: A data mining approach", International Journal on Computer Science and Engineering (IJCSE) ISSN: 0975-3397 Vol. 3 No. 1 Jan 2011, 379. 7. Anup K. Prasad a, Lim Chai b, Ramesh P. Singh a, b,*, Menas Kafatos b (2006). "Crop yield estimation model for Iowa using remote sensing and surface parameters". International Journal of Applied Earth Observation and Geoinformation 8 (2006) 26-33. 8. B. Lalic, L. Pankovic, D. T. Mihailovic, M. Malesevic, I. Arsenic: "Crop models and its use in vegetation dynamic forecasting". In Proc. Of Institute of Field and Vegetable Crops, Vol. 44, pp. 317-323, 2007. 9. B . Marinković, J. Crnobarac, D. Marinković, G. Jaćimović, D.V. Mircov, "Weather conditions in the function of optimal corn yield in Serbia and the Vojvodina province", in Proceeding of the 1st Scientific Agronomic Days, pp. 15-19, 2008. 10. D. Pokrajac, T. Fiez, D. Obradovic, S. Kwek, Z. Obradovic, "Distribution comparison for site-specific regression modeling in agriculture", in Proc. 12th International Joint Conference on Neural Networks (IJCNN), pp. 3937-3941, 1999. 11. Groten, S. M. E. (1993). "NDVI - crop monitoring and early yield assessment of Burkina Faso". International Journal of Remote Sensing, 14(8), 1495-1515. 12. Hayes, M.J., Decker, W.L., 1996. "Using NOAA AVHRR data to estimate maize production in the United States" Corn Belt. Int. J.Remote Sense. 17, 3189-3200. 13. Jorgensen, S.E., 1994. "Models as instruments for combination of ecological theory and environmental practice". Ecol. Model. 75-76,5-20. 14. Mass, S. J., 1988. "Use of remotely-sensed information in agricultural crop growth models". Ecological Modeling. 41,247-268 15. Moa,*, S. Liua, Z. Lina, Y. Xub, Y. Xianga, T.R. McVicarc (2005). "Prediction of crop yield, water consumption and water use efficiency with a SVAT-crop growth model using remotely sensed data on the North China Plain. Ecological Modelling" 183 301-322 16. Monteith, J.L., 1972. "Solar radiation and productivity in tropical ecosystems". J.Appl. Ecol. 9,747-766. 17. Monteith, J.L., 1977. "Climate and the efficiency of crop production Britain". Phil. Trans.Roy.Soc.Lond. B 281,277-294. 18. Reynolds, M. Yittayew, D. C(2000).Slack, "Estimation of crop yields and production by integrating the FAO Crop Speci. C Water Balance	**316-320**

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Authors: **Rajeshwari.S, Malathi.K, Regina.B**

Paper Title: **A Survey on Characterization of Defense Mechanisms in DDOS Attacks**

Abstract: Distributed Denial of Service (DDoS) Attack is a poisonous threat to our security professionals. DDoS Attack is defined as the attack which targets one or more systems using multiple systems which are compromised usually by Trojan Horse at the same instance of time. DDos Attack does not allow legitimate users to access their resource and their services by taking advantage of the system vulnerability .DDoS Attack is independent of the protocols used .The goals of DDoS Attack is Twofold. First it overloads the server which may lead to crash and the second goal is to acquire and steal the bandwidth by generating a large scale of traffic.The attack is set up by a Master called as BotMaster by controlling armies of system to attack which is injected by malware called as Botnets. Effective and Collaborative Defense Mechanisms for DDoS Attack in Wired Network Systems is the main Scope of Intrusion Detection.

Exploration of defense mechanisms for DDoS Flooding Attack in Wired Network Systems along with their classification and study of various structures of Botnets is discussed in this paper. We also highlight all the techniques already used before the attack, during the attack and after the attack. As application level attacks are common and stealthier when compared to network /transport level attacks we focus more on http DDoS flooding attacks.

Keywords: DDoS (Distributed denial of service) Attacks ,TrojanHorse ,BotMaster, Collaborative Defense Mechanisms, Http DDoS flooding attacks, Intrusion Detection, application level attacks.

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Authors: **Sabbar Insaif Jasim**

Paper Title: **Jamming Attacks Impact on the Performance of Mobile Ad-Hoc Network and Improvement Using MANET Routing Protocols**

Abstract: Security in MANET has been a challenging task ever since the wireless networks came into existence. A number of works have been developed to accomplish this task. Jamming attacks can severely interfere with the

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normal operation of wireless networks and, consequently, mechanisms are needed that can cope with jamming attacks. This paper introduced the effect of jammer in Mobile Ad Hoc Network and presented how routing protocols can improve the performance of network in terms of some parameters. MANET Routing protocols taken in this study are OLSR (Proactive routing protocol), DSR (Reactive routing protocol), TORA and GRP (Hybrid Routing Protocol). This study was done using OPNET Modeler (v14.5) in terms of number of scenarios' parameters for HTTP application such as (Delay, Throughput, Data dropped, traffic received and sent). The results showed that Jammers would reduce the performance by increasing delay and data dropped and decreasing throughput. MANET routing protocols could improve system performance by increasing throughput and data dropped at the expense of increasing delay.

Keywords: MANET, OPNET, Routing Protocols, Jammers, attacks.

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Authors:	**Sneha .P. Meshram, Rushi Longadge, Latesh Malik**	
Paper Title:	**An Analysis on Biometric Template Protection Schemes**	

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Abstract: A biometric authentication system operates by acquiring raw biometric data from a subject e.g., fingerprint and iris images. This paper summarizes the various aspects of biometric system security. It broadly categorizes the various factors that cause biometric system failure and identify the effects of such failures. In this system, biometric templates are stored in central database. Preserving the privacy of this digital biometric template has become very important. The main focus of this paper is on Biometric template security. It also provides a high-level classification of the attacks on biometric templates and a detail overview of different template protection approaches that have been proposed in the literature.

Keywords: Authentication, Biometric templates, Steganography, Watermarking.

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Authors: **Ruchire Eranga Henry Wijeisnghe, Nam Hyun Cho, Kibeom Park, Yongseung Shin, Jeehyun Kim**

Paper Title: **Wavelength-Filter Based Spectral Calibrated Wave number - Linearization in 1.3 mm Spectral Domain Optical Coherence**

Abstract: In this study, we demonstrate the enhanced spectral calibration method for 1.3 μm spectral-domain optical coherence tomography (SD-OCT). The calibration method using wavelength-filter simplifies the SD-OCT system, and also the axial resolution and the entire speed of the OCT system can be dramatically improved as well. An externally connected wavelength-filter is utilized to obtain the information of the wavenumber and the pixel position. During the calibration process the wavelength-filter is placed after a broadband source by connecting through an optical circulator. The filtered spectrum with a narrow line width of 0.5 nm is detected by using a line-scan camera. The method does not require a filter or a software recalibration algorithm for imaging as it simply resamples the OCT signal from the detector array without employing rescaling or interpolation methods. One of the main drawbacks of SD-OCT is the broadened point spread functions (PSFs) with increasing imaging depth can be compensated by increasing the wavenumber-linearization order. The sensitivity of our system was measured at 99.8 dB at an imaging depth of 2.1 mm compared with the uncompensated case.

Keywords: SD-OCT,Wavelength-filter,wavenumber-linearization.

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Authors: **Poonam M. Bhagat, Prasad S. Halgaonkar, Vijay M. Wadhai**

Paper Title: **Review of Clustering Algorithm for Categorical Data**

Abstract: Clustering is a partition of data into a group of similar or dissimilar data points and each group is a set of data points called clusters. Clustering is an unsupervised learning with no predefined class label for the data points. Clustering is considered an important tool for data mining. Clustering has many applications such as pattern recognition, image processing, market analysis, World Wide Web and many others. Categorical data are groups of categories and each value represents some category. The problem of clustering categorical data is solved by the use of the cluster ensemble approach, but this technique generates a final data partition with imperfect information. The ensemble-information matrix that is the binary cluster association matrix content presents only cluster-data point relations with many entries being left unknown and which decrease the quality of the whole data partition. To avoid the degradation of the final data partition, a new approach of link-based is presented which includes the refined cluster association matrix. It maintains cluster to cluster relation and helps to improve quality of the final data partition result by determining the unknown entries through measuring similarity between clusters in an ensemble. The cluster ensemble combines multiple data partitions from different clustering algorithms into a single clustering solution to improve the robustness, accuracy and quality of the clustering result.

Keywords: Clustering, categorical, link-based, ensemble

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Authors: **K.Velayutham, U.Arumugham, B.Kumaragurubaran, P.Gopal**

Paper Title: **Evaluation of the Anti- Corrosive Coating on Railway Bogie Components**

Abstract: The objective of this project is to study the corrosion that occurs in Railway coach's bogie components, causes of corrosion, steps taken to prevent corrosion, suggestions to minimize this problem. This paper contains new suggestions to minimize the problems: more emphasis has been laid on Polytetrafluoroethylene (Teflon) coating to be suggested instead of black enamel or epoxy coating for bogie frame and bogie components of equalising rod and brake beam. The under mentioned components are the most affected parts due to corrosion near the bottom of lavatory. Another reason for bogie frame corrosion is easy peeling off coating surfaces due to scratch or dent marks produced by striking of ballast when trains are running.

The corrosion prevention behavior of commercially available epoxy coated surfaces and Teflon coated surfaces on structural steel were evaluated using various methods such as 3.5 wt. % NaCl solution salt spray test, 25% (v/v) sulphuric acid immersion test and loss of weight. Two different systems of coatings were selected for evaluation. The test panels same as of bogie component material composition were prepared and subjected to specific test as per experimental procedure. Optical microscope image were recorded on completion of corrosion test. We observed that after 504 hrs. exposure in atmospheric, Teflon coatings are still good in resisting abrasion and can withstand against corrosion more effective than other coatings.

Keywords: Bogie components, Corrosion, Epoxy coating, Teflon coating.

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Authors: **Chrispus Sifuma Ndinyo, Zachary Abiero Gariy, Stephen M.Mulei**

Paper Title: **Suitability of Reclaimed Asphalt Concrete as a Cold Mix Surfacing Material for Low Volume Roads**

Abstract: Increase in the number of high volume roads constructed to bitumen standards in the past five years in Kenya has led to a strain in the supply of scarce natural resource aggregates. Some of the existing roads have

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undergone reconstruction which involved removal of top asphalt concrete surfacing layer to accommodate new layers underneath. The disposal of the old asphalt concrete surfacing layer in the open spaces has led to environmental degradation. Lack of sufficient funds has led to low volume roads being left in a deplorable state.

The main objective of the study was to evaluate the suitability of a mix of reclaimed asphalt concrete, virgin aggregates and a cationic emulsion as a surfacing material for the construction of low volume roads.

The research involved laboratory investigations and a design process. Reclaimed asphalt concrete, virgin aggregates and a cationic emulsion were evaluated to determine their engineering properties. A combined aggregate gradation for reclaimed asphalt concrete aggregates and virgin aggregates was determined which was used in the determination of the percent emulsion demand for the combined aggregates based on the suggested empirical formula and there after designing an optimal mix according to the modified Marshall mix design method. The optimal gradation envelope from the combined aggregates coupled with emulsion demand that provided a specimen with the desired workability and posing no evidence of surface flushing or bleeding was taken as an ideal mix. The ideal mix provided an optimal stability value of 6900N and a residual binder of 5.2%. The study indicates that the stability values obtained for the designed cold mix were greater than the minimum specified of 3336N for medium traffic surfacing (Asphalt Institute Design Manual, 1994).Cost of producing a unit of reclaimed asphalt concrete cold mix was Kenya shillings 8,445 cheaper than the production costs of conventional asphalt concrete cold mixes in Kenya.

The study concludes that reclaimed asphalt concrete cold mix is a suitable surfacing material for the construction of low volume roads. It's therefore recommended as an economical and environmentally friendly surfacing material.

Keywords: cost, conventional, environmental, modified, optimal.

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73.	**Authors:**	**Kotikalapudi Raviteja, Arun K Gupta, Maya D Bhat, Chandrajit Prasad**
	Paper Title:	**Knowledge Based Brain Tumor Segmentation Graphical User Interface**

Abstract: This paper describes a knowledge based brain tumor segmentation system (KBBTS) using histogram interpretations for predicting brain tumor area from trans-axial Magnetic Resonance Imaging (MRI). A graphical user interface (GUI) was developed for the segmentation of brain tumor images. This system showed significant improvements over traditional threshold-based tumor segmentation methods. Although KBBTS is not designed to work in real time, it serves as potential research advancement for real time brain tumor segmentation using computer-aided systems with high performance.

Keywords: Glioma, graphical user interface (GUI), histogram, knowledge based brain tumor segmentation (KBBTS), trans-axial magnetic resonance imaging (MRI)

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Authors: **Moumita Bhoumik**

Paper Title: **Electrical Characteristics of GaAs Nano- HEMT**

Abstract: In today's world, there is a demand for high frequency devices & circuits. And Nano technology can enhance the speed of devices & circuits due to reduction of its carrier transit time. Previously research work has been done regarding electrical characteristics of high frequency devices made up of semiconductor materials such as – MESFETs & HEMTs which included current-voltage characteristics and also Noise Power Spectral Density Analysis using various substrate materials like SiC, GaAs etc. [1] with gate length Lg in µm range. Now emphasis is given on electrical characteristics analysis on GaAs Nano-HEMT by reducing the gate length Lg in nm range.

Keywords: Gallium Arsenide, Nano-HEMT, Noise PSD, 1/f Noise.

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Authors: **Wail N Al-Rifaie, Azad Ahmed**

Paper Title: **Experimental Investigation on Thin Ferro cement Dome Structures**

Abstract: The paper describes an experimental study for the effect of both skeletal reinforcement and thickness on the strength capacity and behaviour of thin ferrocement dome structures under uniformly distributed load. Four ferrocement domes of 4000 mm covered span were constructed and tested up to ultimate stage. It has been concluded that the construction technique developed in the present investigation reflects the most economic approach, which reduces the nominal cost of such complex structures during construction.

Keywords: ferrocement, shell, dome, folded plate.

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Authors: **Rosnani Affandi, Mohd Ruddin Ab Ghani, Chin Kim Gan, Jano, Zanariah**

Paper Title: **A Review of Concentrating Solar Power (CSP) In Malaysian Environment**

Abstract: Malaysia has an abundance of solar energy. While the magnitude for average daily solar irradiations in Malaysia is around 4.21–5.56 kWhm−2, the sunshine duration is more than 2,200 hours per year. However, the focus on solar energy in Malaysia is mainly on the Photovoltaic (PV) panel to generate electricity. There is still lack of thorough investigation in implementing the solar thermal, such as the Concentrating Solar Power (CSP) in Malaysian environment. This paper reviews the CSP technology and the potential of developing CSP plant in the Malaysian environment by taking into account the Direct Normal Irradiance (DNI) and a few geographical aspects.

Keywords: Concentrating Solar Power (CSP), Direct Normal Irradiance (DNI), Photovoltaic (PV).

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Authors: **Abinash Singh, Balwinder Singh Surjan**

Paper Title: **Power Quality Improvement Using FACTS Devices: A Review**

Abstract: During the design of modern power systems for efficient operation and continuous power supply to various load centers one has to consider the growth in the use of power electronics that has caused a greater awareness of power quality. Voltage sags, swells, harmonics etc are the various power quality problems that can cause equipment to fail, or shut down, blown up fuses or tripping of breakers due to large current imbalances. FACTS devices can be used to overcome these effects which can otherwise be very harmful for the residential as well as industrial customer, hampering their work production due to faults and equipment damage. This is a review paper to analyze the current trends in FACTS to improve the power system performance. It contains work which has been carried out by various researchers in the field of FACTS.

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Keywords: FACTS , STATCOM , DVR, SSC, DSTATCOM, TCSC, IPFC, UPFC.

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Paper Title: **Experimental Comparison of Optical Loss between the Silicon-on-Insulator Waveguide Corner Mirrors and Curves**

Abstract: Based on our previous work in modeling and numerical simulations that shows the transfer efficiency of a silicon-on-insulator (SOI) waveguide corner mirror (WCM) structure can achieve 95%, this paper experimentally demonstrates the optical loss advantage of SOI WCMs over waveguide curves. Both the numerical simulations and FDTD simulations further confirm the sustainable results of more than 94% and then the manufactured devices give a 0.30dB average optical loss in experiments. In contrary, the testing results of waveguide curves show that the optical propagation loss rates of 30 and 10dB/cm require the bending radii to be 0.5 and 2.0mm, respectively.

Keywords: Silicon-on-insulator waveguide, waveguide corner mirror, waveguide curve, optical loss.

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Authors: **R.Naresh, J.M.Babu, Gowthaman, Mariappan**

Paper Title: **Electro Hydro Dynamic Enhancement of Heat Transfer by Different Working Fluids in a Forced Convection Loop**

Abstract: The flow in channel occupies an important place among the several heating systems. At the same time there is a great need of maintaining and running the system effectively. There are several ways of improvement in thermal efficiency of a system, One of the ways by which we can improve thermal efficiency of the system is to take the advantage of electric field. In the present work the effect of electric field in combination with flow and temperature fields is studied experimentally in a vertical annulus, uniformly heated on the outer wall, a dielectric liquid is allowed to flow in the forced convection loop by using centrifugal pump in a channel. Sharp points are added perpendicular to the inner wire electrode and voltages are applied to it, while the outer wall is grounded.
Experimental apparatus is fabricated to conduct the experiments with heat input, voltage supplied and mass flow rate of working fluid as the independent parameters. Flow and temperature distributions are affected by the supplied voltage at the wire electrodes, and effect is more when the fluid is flowing with low Reynolds number. Because of the advantage of considerable dielectric strength of the fluid and comparatively cheaper than silicone based dielectric fluids, transformer oil is selected as working fluid. It is seen from the experiments that the heat transfer coefficient in the presence of electric field increases in relation with the supplied voltage, but decreases with the Reynolds number. From the literature survey it can be concluded that there is a significant enhancement in the heat transfer from the heated surface to the working fluid.

Keywords: Sharp points are added perpendicular to the inner wire electrode and voltages are applied to it, while the outer wall is grounded.

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16. Enhancement of external forced convection by ionic wind David B. Go, Raul A. Maturana, Timothy S. Fisher, Suresh V. Garimella

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Authors: **Mahavir Singh Naruka, D. S. Chauhan S. N. Singh**

Paper Title: **Power Quality Improvement in Switched Reluctance Motor Drive Using Zeta Converter**

Abstract: This present paper deal with the power quality improvement using a Zeta ac-dc boost converter in the mid-point converter based Switched Reluctance Motor drive (SRM).Using a simple bridge rectifier the mid-point converter based SRM drive shows low power factor at ac mains and produces very high harmonics content. The proposed Zeta ac-dc boost converter in continuous conduction mode (CCM) with mid-point converter fed SRM drive

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which helps to improves the input power factor, reduces total harmonic distortion of ac mains current (THDi), provides constant dc link voltage and balanced capacitor voltages for static operation. The SRM drive with input Zeta converter is modeled and the performance is simulated in MATLAB environment for 230V and 50Hz. Here the Zeta converter performance is compared with a conventional bridge topology for the SRM drive.

Keywords: Power quality, Power factor correction (PFC), SRM, Mid-point converter, Zeta ac-dc boost converter, continuous conduction mode (CCM.)

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Paper Title: **Modelling and Simulation of Ambient Carbon Monoxide**

Abstract: Air pollution affects both the health and environment of living organisms. In large urban cities the emissions of carbon monoxide (CO) gas from the transport sector pose unprecedented risks being a silent and lethal killer. In order to eradicate the adverse impact of CO pollution, there exists a need for an early warning system, which may be of immense help to manage and regulate ambient CO concentrations. CO emission and its dispersion is a non-linear problem which can be vividly expressed using artificial neural network (ANN) computations. In this paper an attempt is made to simulate concentration of CO gas based on historical data using ANN. Eleven years (1996-2006), morning time (06.00hrs-14.00hrs) CO emission data from ITO square of Delhi has been employed for modelling and simulation. The ANN are regarded as an efficient and optimised architectures for capturing the inherited codes of processes and technique for estimation as compare traditional statistical techniques. The modelling result shows comparable matching with the measured ambient values of CO.

Keywords: Simulation, Modelling, Concentration, Artificial Neural Network (ANN), Real time analysis

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Effects and to Forecast Ground Level Ozone, Environmental Modeling and Software, 21, 547-558.
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82.	**Authors:**	**Vidya.M.S, Roykumar.M**	
	Paper Title:	**Static Synchronous Series Compensator and Dynamic Voltage Restorer-A comparison**	
	Abstract: With the growth of complex electrical power networks,the use of FACTS(Flexible Alternating Current Transmission System) devices has also increased in Power system.Increased demands on transmission, absence of long term planning, and the need to provide open access to generating companies and customers, all together have created tendencies towards less security and reduced quality of supply. Static Synchronous Series Compensator(SSSC) and Dynamic Voltage Restorer(DVR) are two important devices to mitigate these problems. Even though the role of these two devices in power system has been studied by many resercherers, a comparison between the two is not found much in literature.In this paper,a describtion of the two devices with their control strategies and a comparison between the two is presented. **Keywords:** SSSC,DVR,Voltage source converter,Series injection transformer,DC link capacitor. **References:** 1. N G. Hingarorani,"Flexibile AC transmission ",IEEE spectrum,1993 2. R.Padiyar," FACTS controllers in Power transmission and distribution",New age international(P) Ltd,2007 3. M.Sharanya, B.Basavaraja , M.Sasikala, "An Overview of Dynamic Voltage Restorer for Voltage Profile Improvement", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-2, Issue-2, December 2012 4. Laszlo gui,Colin D Schauder etal ,"Static Synchronous Series Compensator"-A solidstate approach to the series compensation of transmission lines", IEEE Transactions on Power Delivery, Vol. 12, No. 1, January 1997. 5. Schauder C D, Gyugyi L, Lund M R, Hamai D M, Rietman T R, Torgerson D R, Edris A,"Operation of the Unified Power Flow Controller (UPFC) Under Practical Constraints", IEEETransactions On Power Delivery, Vol. 13, No. 2, April 1998, pp. 630-639 6. B A Renz, A J F Keri, AS Mehraban, C Schauder, E Stacey, L Kovalsky, L Gyugyi, A Edris,"AEP Unified Power Flow Controller Performance", IEEE Transactions On Power Delivery, Vol. 14, No. 4, October 1999, pp. 1374-138 7. Jowder F A L, "Influence of Mode of Operation of the SSSC on the Small Disturbance and Transient Stability of a Radial Power System", IEEE Transactions On Power Delivery, Vol. 20, No. 2, May 2005, pp. 935-942. 8. Pradhan A C, Lehn P W, "Frequency-Domain Analysis of the Static Synchronous Series Compensator", IEEE Transactions On Power Delivery, Vol. 21, No. 1, January 2003, pp. 440-449 9. P.Suman Pramod Kumar , N.Vijaysimha, C.B.Saravanan, "Static Synchronous Series compensator for series compensation of EHV transmission line", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering Vol. 2, Issue 7, July 2013 10. C.H Srisailami,.A Sreenivas, "Mitigation Of Voltage Sags/Swells By Dynamic Voltage Restorer Using PI And Fuzzy Logic Controller", International Journal of Engineering Research and Applications (IJERA) Vol. 2, Issue 4, July-August 2012, pp.1733-1737 11. M.V.Kasuni Perera," Control of a Dynamic Voltage Restorer to compensate single phase voltage sags", Master of Science Thesis Stockholm, Sweden 2007	**410-413**
83.	**Authors:**	**Jija Rajmohan, M.R.Baiju**	
	Paper Title:	**Design and Analysis of a Low Voltage RF MEMS Shunt Switch for Reconfigurable Antennas**	
	Abstract: RF MEMS switches can be used to achieve reconfigurability of various RF systems and in particular, that of miniaturized antenna structures. In the case of micromachined antennas, which involve low voltage signals, RF MEMS switches with low actuation voltage are required for achieving reconfigurability . The capacitive shunt switch derives its switching property from the significant difference of its capacitance in the up-state and down-state. The actuation voltage of RF MEMS switches mainly depends on the spring constant of the switch membrane. In this paper, a low actuation voltage capacitive shunt switch suitable to be used along with micromachined antennas, is presented . A process flow for the fabrication is designed and simulated using Intellisuite . The electromechanical analysis results are presented and compared with that of a fixed- fixed flexure based switch membrane to establish the low actuation voltage characteristics of the proposed design. **Keywords:** RF MEMS Switches, Actuation voltage, Reconfigurablity **References:** 1. Christos G Christodolou,Youssef Tawk,Steven A Lane and Scott R Erwin," Reconfigurable antennas for wireless and space applications ",Proceedings of the IEEE Vol 100 No .7 ,July 2012. 2. Harvey S.Newmann ,"RF MEMS Switches and Applications ", 40th Annual International Reliability Physics Sympopsium ,Dallas ,Texas,2002. 3. N.Haider,D Caratelli and A.G.Yarovoy ," Recent developments in Reconfigurable and Multiband and Antenna technology", Microwave Sensing,Signal and Systems,DelftUNiversity of Technology,January 2013. 4. Chang won Jung, Ming-jer Lee, G. P. Li, and Franco De Flaviis,"Reconfigurable Scan-Beam Single-Arm Spiral Antenna Integrated With RF-MEMS Switches," IEEE Transactions on Antennas and Propagation, vol. 54, no. 2, February 2006. 5. Greg H. Huff, and Jennifer T. Bernhard,"Integration of Packaged RF MEMS Switches With Radiation Pattern Reconfigurable Square Spiral Microstrip Antennas" IEEE Transactions on Antennas and Propagation, vol. 54, no. 2, february 2006 6. Jennifer .T .Bernhard, Reconfigurable antenna s,Morgan and Claypool publishers. 7. Nakul Haridas, Ahmet T. Erdogan, Tughrul Arslan, Anthony J. Walton,Stewart Smith, Tom Stevenson, Camelia Dunare, Alan Gundlach, Jon Terry, Petros Argyrakis, Kevin Tierney, Alan Rose and TonyO'Hara, Reconfigurable MEMS Antenna 8. E. R. Brown, "RF-MEMS switches for Reconfigurable Integrated Circuits", IEEE Trans. Microwave Theory Tech., vol. 46, p p. 1868-1880, Nov. 1998. 9. Gabriel M.Rebeiz and Jeremy .B.Muldavin ," RF MEMS Switches and Switch circuits ", IEEE Microwave magazine,December 2001. 10. Gabriel .M.Rebeiz,"RF MEMS Switches :Status of the Technology", 12th International Conference on Solid state Sensors,Actuators and microsystems,,June 8-12,2003. 11. V. Ziegler, C. Siegel, B. Schönlinner, U. Prechtel, H. Schumacher,"Switching Speed Analyssi of low complexity RF-MEMS switches ," European MicrowaveWeek, Paris, France, October 2005. 12. Mingxin Song, " Design and analysis of a novel low actuation voltage capacitive RF MEMS switches", Proceedings of the 3rd IEEE International conference on Nano/Micro Engineered and Molecular systems,January ,2008 13. P.D.Grant and M.W.Denhoff," A Comparison between RF MEMS Switches and Semiconductor switches ", Proceedings of the 2004	**414-418**

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Authors: **Rimpi Suman, Dinesh Kumar**

Paper Title: **Punjabi Offline Signature Verification System Using Neural Network**

Abstract: The signature identification or verification , means where "identification" implies matching a user signature against a signature associated with the identity that the user claim. Biometrics can be classified into two types Behavioral (signature verification, keystroke dynamics, etc.) and Physiological (iris characteristics, fingerprint, etc.).Signature and Finger Print verifications are most widely used personal verifications and are one of the first few biometrics used even before computers. Signature verification is widely studied and discussed using two approaches. On-line approach and offline approach. Online signature verification represents the dynamic information related to signature which is captured at the time when signature made. The offline signature verification represents the static information of signature. Offline systems are more applicable and easy to use in comparison with on-line systems in many parts of the world however it is considered more difficult than on-line verification due to the lack of dynamic information. This paper presents about offline Signature identification method that had more attraction in recent years because of its necessity for use in daily life routines and when the signature needs to be immediately verified like bank checks, Security for Commercial Transactions, Cheque Authentication, attendance etc. In this paper we present, features types and recent methods used for features extraction in offline signature verification systems .Finally, we suggest new interesting ideas to be incorporated in the future.
General Terms Signature verification, Signature matching, biometric

Keywords: Signature verification techniques, Preprocessing ,feature extraction, feature detection, security.

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85.

Authors: **Eman M. Nasir**

Paper Title: **Fabrication and Characterization of n-ZnS/p-Si and n-ZnS:Al/p-Si Heterojunction**

Abstract: A thin films of ZnS and ZnS:Al with various Al concentration (0, 1, 2)%wt has been prepared successfully. Also n-ZnS/p-Si and n-ZnS:Al/p-Si heterojunction detector(HJs) has been fabricated by thermal evaporation at different Al concentration. Structure of these films was characterized by X-ray diffraction. The structures of these films are cubic zinc along (111) plane The reverse bias capacitance was measured as a function of bias voltage, and it is indicated that these HJs are abrupt. The capacitance decreases with increasing the reverse bias, and fixed at high value of reverse bias voltage. The capacitance increases with increasing Al concentration. The

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width of depletion layers decreases with increases Al concentration. The value of highest built in potential varies between (2-1.37V). The current-voltage characteristic of n-ZnS/p-Si and n-ZnS:Al/p-Si heterojunction show that the forward current at dark condition varies approximately exponentially with applied voltage and the junction was coincide with recombination-tunneling model, and reverse current exhibited a soft breakdown. The difference between forward and reverse current with applied voltage indicates that the detector has a high rectification characteristic. The value of ideality factor was varies between 2.58-3.22, and the value of tunneling constant (At) varies between 4.92-8.05V-1. From the I-V measurements under illumination, the photocurrent increased with increasing Al concentration. The energy band diagram for HJ has been constructed

Keywords: C-V measurements, heterojunction, vacuum evaporation, Zinc sulfide.

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86.

Authors:	**Yiannis Koumpouros, Panagiotis Kalagiakos, Anastasia Kadda**
Paper Title:	**The Social Aspects of the Web-Based Social Network Sites: The Greek Case**

Abstract: The current research identifies the social implications and dimensions of the several web-based social networking sites. It targets the multiple aspects behind the need for socializing using the Internet, while revealing the results of such kind of socialization in Greece. The paper examines the statistics of the Greek population by focusing on eight major axis: membership issues, socializing, cross-cultural communication, transmission of social messages, commercial and business perspective, information technology awareness, general issues, users' profiles. It concludes with the need for socializing through such services, the profile of the Greek users, the major reasons for having net-friends, connection statistics between different social layers, as well as the use of web social networks for business purposes.

Keywords: Social Network Sites, Socialization, Social Capital.

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87.

Authors: **Ibrahim M. Ali, Fathy M. Ahmed**

Paper Title: **Application of a Wigner Ville Distribution Based Method in Moving Target Detection**

Abstract: In the present work, a sinusoidal detection method based on Wigner–Ville distribution (WVD) proposed in [1] is applied in the Moving Target Detection (MTD) for realizing
a bank of Doppler filters instead of the direct Fast Fourier Transform (FFT) or WVD in a typical ground based radar. The proposed MTD scheme does not suffer from cross terms produced due to the bilinear nature of WVD. It enhances the target detection capabilities by providing higher detection probabilities and additional gain of 9 and 11 dB in the improvement factor, in the presence of ground and weather clutter, compared to WVD and direct FFT schemes respectively. Performance of the proposed MTD scheme and the other mentioned schemes is evaluated through computer simulation by generating receiver operating characteristics (ROCs) via Monte Carlo trials.

Keywords: Fast Fourier Transform (FFT), Moving Target Detection (MTD), Wigner Ville distribution (WVD).

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Authors: **Deepthi Ch, G. Vijay Kumar, P Ravindra Reddy**

Paper Title: **Thermo-Structural Response of a Rocket Thruster Using Fem**

Abstract: Rocket Thruster is a reaction control system of liquid rocket propulsion system, used for the attitude control of missile. The reaction control system is employed in the missile to provide roll control to the second stage after separation of the first stage. The thruster is subjected to temperature and pressure loads during its operation. It is essential for a flight vehicle to have low weight and high velocity to overcome the gravity. In order to develop compact size thruster, it is required to carry out structural analysis for SS321 material. The present report deals with analysis of Rocket Thruster casing and flange joint. The Rocket Thruster casing is designed as per ASME pressure vessel code and NASA SP 125 design report. The proposed model is a modification from the conventional joint between L-dome and injector plate. Thermo-structural analysis is performed to evaluate the new design which eliminates use of welded joint. Analysis is carried out to estimate stresses especially in the modified region to ensure less stresses are developed compared to the original design. Analysis has been carried out considering the external injector pressure for shell and then the temperature loads are applied on the thruster to estimate the deformations and stresses. The Thruster is then subjected to a thermo-structural load and then von Mises stresses are estimated.

Keywords: Finite Element Method, Thermo-structural response, Rocket Thruster

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Authors: **Magdi B. M. Amien, Alia M. A. Sidig, Razaz K. Yusif**

Paper Title: **Object Detection and Tracking on Three- Dimensional Images Based-on a New Multishape- Search-Pattern**

Abstract: Object detection and motion estimation are important issues in many different fields. They are widely and comprehensively used in military, robot industry, movie technology, medical field, and others. Therefore they have been the motivation of many research activities, through image and video processing. Among tens of available literature a number of approaches have been tried, but Block Matching, Optical Flow, and Block Flow are the famous techniques. This study introduces a new framework to deal with object detection and trajectory tracking problem, in a sequences of 3D ultrasound frames; firstly the traditional Block-Matching algorithm has been modified into a new multishape-search-pattern, and then we use combination of the modified-model and optical flow algorithm in a "cascade" to detect and determine the trajectory of the interested object. Atrial septal defect (ASD) has been selected as an object of case-study, and 3D ultrasound videos from "Khalifa-Hospital in Abu-Dhabi" were used as a data set, to evaluate the performance of the implemented algorithm. Comparative results show that the proposed scheme has a significant improvement in detecting and tracking ASDs, in terms of Peak Signal to Noise Ratio (PSNR) and computing velocity.

Keywords: Block-Matching, Computer vision technology, Objects-Detection.

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Authors: **Jayabhaskar Muthukuru, B. Sathyanarayana**

Paper Title: **A Secure Elliptic Curve Digital Signature Approach without Inversion**

Abstract: The Elliptic Curve Digital Signature Algorithm (ECDSA) is the elliptic curve analogue of the Digital Signature Algorithm (DSA). Unlike the ordinary discrete logarithm problem elliptic curve discrete logarithm problem (ECDLP) has no sub-exponential time algorithm, due to this the strength per key bit is substantially greater when compare with conventional discrete logarithm systems. Elliptic curve based digital signatures are stronger and ideal for constrained environments like smart cards due to smaller bit size, thereby reducing processing overhead. Considering the security of data it is lacking regarding random number choosing or determination. This lacking leads to recovery of the private key in original Elliptic Curve Digital Signature scheme. This problem is overcome by our proposed digital signature scheme which is presented in this paper.

Keywords: Digital Signature, ECDSA, Elliptic Curve Cryptography, Elliptic Curve Digital Signature Algorithm.

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Authors: **S.L. Jany Shabu, Dr.C. Jayakumar, T. Surya**

Paper Title: **Survey of Image Fusion Techniques for Brain Tumor Detection**

Abstract: Image Fusion is the process of combining relevant information from two or more images into a single composite image. Image fusion is used to detect the tumor by integrating two or more medical images. In this paper, we propose Genetic algorithm to detect the brain tumor, which generate solutions to optimization problems using techniques, such as selection, crossover and mutation. Before applying genetic algorithm, features of the images are extracted. Feature Extraction is a form of dimensionality reduction and it can be either general feature, such as extraction of color, texture and shape features.

Keywords: Feature Extraction, Genetic Algorithm, Image Fusion.

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Authors: **A.Sathyavathi, M.R.Rajaraman, B.Kumaragurubaran, P.Gopal**

Paper Title: **Optimization of Cutting Parameters on Surface Roughness Using CNC Turning**

Abstract: Paper Optimization of cutting parameters is important for achievement of high quality. Taguchi method of experimental design is one of the widely accepted techniques for off line quality assurance of products and processes. In this investigation, comparison of TiBN coated on carbide tool using Physical Vapor Deposition (PVD) machine and uncoated carbide tool, under dry condition. The chemical composition of TiBN is 0.55% Ti, 0.22%B, 0.22%N .The Work piece material is taken as Aluminium and Copper. Experiment is carried out using Taguchi's L27 orthogonal array. The effect of cutting parameters on SR was evaluated and optimum cutting conditions for minimizing the SR was determined. Analysis of variance (ANOVA) was used for identifying the significant parameters affecting the responses and Comparing the result with genetic algorithms.

Keywords: Computer numerical control, Surface Roughness, Optimization, Tool

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Authors: **Virendra Kumar Swarnkar, K. J. Satao**

Paper Title: **An Implementation of Efficient Text Data Compression**

Abstract: The size of data related to a wide range of applications is growing rapidly. Typically a character requires 1 Byte for storing. Compression of the data is very important for data management. Data compression is the process by which the physical size of data is reduced to save on memory or improve traffic speeds on a website. The purpose of data compression is to make a file smaller by minimizing the amount of data present. When a file is compressed, it can be reduced to as little as 25% of its original size which makes it easier to send to others over the internet. Data compression may take extensions such as zip, rar, ace, and BZ2. It is normally done using special compression software. Compression serves both to save storage space and to save transmission time. The aim of compression is to produce a new file, as short as possible, containing the compressed version of the same text. Grand challenges such as the human generated project involve very large distributed databases of text documents, whose effective storage and communication requires a major research and development effort. Several text compression schemes have been introduced for reducing storage space and transfer time via a computer network. The aim of this paper is to introduce a scheme for text data compression which will take less storage space, will yield better compression rate and compression ratio.

Keywords: Data compression, Data decompression, Compression algorithms, Compression ratio, Compression rate.

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Authors: **Er. M.Manikanda Ramkumar**

Paper Title: **Water Quality in River Basin**

Introduction: To analysis the quality of water in river basin with the following objectives.
OBJECTIVES OF A WATER QUALITY
1. For enhancing good quality water to consumers.
2. For Passage of sufficient water to the desired area.
3. For easy availability of water to consumers so as to promote hygiene in the environment

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95.

Authors: **Sayyed Shoheb Navid, Swayambhu S. Bhalsing, Pankaj B. Autade**

Paper Title: **Tensile Strength of Ferro Cement With Respect to Specific Surface**

Abstract: Ferrocement is a term commonly used to describe a steel-and-mortar composite material .Essentially a form of reinforced concrete, it exhibits behavior so different from conventional reinforced concrete in performance, strength, and potential application that it must be classed as a completely separate material. It differs from conventional reinforced concrete in that its reinforcement consists of closely spaced, multiple layers of steel mesh completely impregnated with cement mortar.
The use of ferrocement is a promising technology for increasing the flexural strength of deficient reinforced concrete members. The study reported herein investigates the increase in tension due to increase in contact area between wire meshes and mortar, i.e. increase in specific surface of ferrocement. For achieving higher values of specific surface, No. of Layers of meshes needs to be increased.
So in a beam if we use ferrocement in tensile zone of beam, we will be in a position to replace steel bars used in R.C.C, saving in steel is thus achieved.
Behavior of such Ferrocement is studied which includes following mechanical properties for determining the relations between the tensile strength of ferrocement with respect to the specific surface using various combination of

mortar and meshes which is to be used in ferrocement.

1. Tensile Strength.
2. Compressive Strength.
3. Split Tensile Strength.

Keywords: R.C.C

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