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1.

Authors: Shubhangi Pandhare, Abhishek Gautam, Sayali Chavan, Shital Sungare

Paper Title: Co-Operative Content Downloading Framework Over Cellular Network

Abstract: The multifold advancement over wireless communication has in a way, predicted to use smartphones, laptops, and tabs vastly for downloading purpose. But due to confined data transfer capacity, the statistics of downloading quantity approximately for a distinctive person is constrained and time taking for a high precision video. The co-operative content downloading framework will permit the requested joiners inside the network to download a section of the file independently. This may aid the potential to download the document with cost effectiveness and with a reduced time consumption component. The above mentioned framework will additionally trace the real process how the transfer speed (bandwidth) will be distributed within the joiners and one requestor. The entire framework will deliver the efficient utilization of bandwidth in specific environments.

Keywords: Segmentation, Cluster formation, Adhoc network, Sequencing.

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2.

Authors: Cini K.

Paper Title: Value Based Reliability Evaluation of Primary Power Distribution System

Abstract: Distribution system reliability is concerned with the availability and quality of power supply at each customer's service entrance. Analysis of customer failure statistics shows that failure in distribution system contribute as much as 90% towards the unavailability of supply to a load as compared with each part of electric systems. These statistics reinforces the need for reliability evaluation of distribution systems. In recent years with the advent of smart grids the significance of distribution system has enhanced because of the importance of co generation and distributed generation. The different causes and duration of failures are analysed season wise. The failure rate of the different feeders of the system under study was calculated and the reliable feeders were identified. Suggestions are given to improve the reliability of the feeders. This type of analysis will help the operation and maintenance engineers to maintain the quality service to the customers and schedule the maintenance services.

Keywords: Distribution Systems, Reliability Indices, Failure Rate, Availability.

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3.	**Authors:**	**S. L. Deshpande, D S Chaudhari**
	Paper Title:	**Wireless Nodes Assisted Micro-Irrigation System: an IoT Approach**

Abstract: Irrigation systems deployed with Wireless Sensor Network (WSN) while transforming them to Micro-Irrigation systems are emerging as fruitful solution to ongoing ground water crisis. Field parameters like soil moisture, temperature and humidity can be monitored taking help of sensor array and can be fed back to decision making control system. Organized parametric results can help the optimized use of the water. By using wireless communication and environmental energy harvesting techniques, sensor network can be made totally wireless. Internet of Things (IoT) is another emerging technology that goals to extend the application of internet from complex computational machines (computer) to the stand alone devices such as consumer electronics. Integrating IoT to WSN not only can provide remote access but also allow two distinct information systems to frequently collaborate and provide common services. Also the user can be provided with flexible interface like mobile application. The miniaturization in technology and even more reliable communication are the strongest suits of such sensor network. This paper reviews for various technologies to fulfil requirement of such application and the shows some system characteristics.

Keywords: WSN, IoT, Irrigation, Moisture, Humidity, Energy Harvesting, etc.

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4.	**Authors:**	**Sajith A.G, Hariharan S**
	Paper Title:	**A Region based Active Contour Approach for Liver CT Image Analysis Driven by Local likelihood Image Fitting Energy**

Abstract: Computer tomography images are widely used in the diagnosis of liver tumor analysis because of its faster acquisition and compatibility with most life support devices. Accurate image segmentation is very sensitive in the field of medical image analysis. Active contours plays an important role in the area of medical image analysis. It constitute a powerful energy minimization criteria for image segmentation. This paper presents a region based active contour model for liver CT image segmentation based on variational level set formulation driven by local likelihood image fitting energy. The neigh bouring intensities of image pixels are described in terms of Gaussian distribution. The mean and variances of intensities in the energy functional can be estimated during the energy minimization process. The updation of mean and variance guide the contour evolving toward tumor boundaries. Also this model has been compared with different active active contour models. Our results shows that the presented model achieves superior performance in CT liver image segmentation.

Keywords: Active Contours, Chan-Vese model, Level sets

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5.

Authors: **Ogundare A.B, Ihiovi M.M**

Paper Title: **Design of a 3 Phase Automatic Change-Over Switch using a PIC Microcontroller (PIC16F877A)**

Abstract: Change over process involves switching electrical load from one power source to another, when the load is powered by two alternative sources (main utility and stand by generator). The process can be complex if it involves starting and stopping of source like generator and monitoring of mains. This paper presents a method to ease this rigorous process. A 3 phase automatic change over which uses generator control mechanism is designed to select between two available sources of power in this case, generator and utility with preference to the utility. The system monitors the utility mains supply and checks for complete failure as well as phase failure upon which it automatically start the generator, run it on idle for a minute, then switch the load to it. The system keeps monitoring the utility source for power restoration, it also monitor the generator output for failure upon any of which it switches back the load to utility supply and automatically switch off the generator. Once power is restored, the system delays for two minute before transferring the load to the utility supply. Success was recorded as the above processes were automated. This was achieved with the combination of discrete electrical and electronics components

Keywords: Electrical Load, Utility, Generator, Electrical and Electronics Components.

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6.

Authors: **Pooja C.S, K.R Prasanna Kumar**

Paper Title: **Survey on Load Balancing and Auto Scaling techniques for cloud Environment**

Abstract: Cloud computing became now first choice and priority for every person who access the internet, one of the advantageous features of cloud computing is its scalability and flexibility. Auto scaling offers the facility to the individuals to scale up and scale down the resources as per their requirements, using only the needed resouce and paying for what they have used i.e "pay-as-you-use". As everything take place in automatic manner, so human involvement errors are less and reduce the manpower and costs. so to make use of elasticity user must use auto scaling technique that balances the incoming workload, and reduce the total cost and maintain the Service Level Agreement (SLA).In this work main ideas revolve around the problems in scalable cloud computing systems. In modern days, management of resources is in boom and most talked topic in cloud environment. we present some of the existing load balancing policies and about Autoscaling categories.

Keywords: cloud computing, scaling, auto scaling, load balancing.

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7.

Authors:	**Ahmed Mohmad Aliywy**
Paper Title:	**Design and Analysis of NACA0016 Wing Rib and Stringers by using al-7075 and Kevlar**

Abstract: The aircraft wing consists of multiple airfoils shapes that are called "ribs". These ribs are connected with stringers to form a shape of Skelton and then cover it with aluminium-alloy sheets to make a wing. In this paper, a NACA0016 airfoil ribs with stringers were designed in CATIA V5 by using three types of aluminium-alloys (AL-2024, AL-6061, and AL-7075) and then analysed in ANSYS workbench to determine the deformation, stress and safety factor values. The stringer's material was then changed from al-alloy to cfrp and Kevlar in order to find which combination of materials will give less deformation, stress and high safety factor. The results show that using cfrp material can reduce the weight up to 30% but the stress will increase while using Kevlar nearly reduces stress, deformation and weight up to 252Mpa, 25% and 33%, respectively. It concluded that AL-7075-t6 and Kevlar materials give less stress and high strength to weight ratio.

Keywords: Ribs, Stringers, NACA0016, Al-alloys, cfrp, Kevlar, Ansys, CATIA, Design foil.

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8.

Authors:	**Deekshitha Dasireddygari**
Paper Title:	**Practical Immitation Checking and Data Consistency**

Abstract: At in attendance Cloud Storage Systems are in front of two main tribulations one is Data steadfastness and the other is storage space. So that many companies are preferring 3-way replica scheme here the main negative aspect is the storage space of facts in Cloud is ever-increasing a lot, it even requires superfluous storage space cost. So we are going through the data trustworthiness and to overcome this problem, in this document we are going all the way through the data supervision which is cost effective and its named as PRCR which is normalized Data steadfastness Model. So we are forthcoming Proactive Replica algorithm, where the transparency is minor at PRCR, and also PRCR gives bare minimum imitation data at the cloud summit of view, which also known as yardstick of cost helpfulness at replication come within reach of. So here our work indicates, comparing both the three-replica tactic with PRCR which to the highest degree reduces the Cloud storage space from one by third to two by third, so it plainly shows the lowering of Storage Cost.

Keywords: Data Minimum replication, Proactive Replica Checking, data Reliability, Cloud Computing, Cost effectiveness storage

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9.

Authors:	**Prachi Patil, Sojwal Pajai, Surabhi Sanger, Dimpal Shinde**

	Paper Title:	**Smart Medi Friend: An Automated Healthcare System, Implementation and Results**	
	Abstract: In the current era, one of the greatest concerns in healthcare is global aging and prevalence of chronic diseases A smart medi-friend is an all-inclusive healthcare application consisting android devices, cloud server and medi-box(NFC). This system works as an assistance application for healthcare and also as a medicine remainder, eliminating the possibility of taking wrong medicine. One of the five main modules, Admin, will manage doctors' and patients' info stored in database through server. Doctors will be able to give prescription, update prescription and timing, view report and history of patient from patient list. Patients will be able to identify medicines using NFCs, upload reports and view latest prescription. Patient's app will generate an alert according to the medicine time uploaded by the doctor. ANN algorithm will predict the highest probable disease when symptoms are given as input. This project will reduce the burden on hospital resources, save time and money of patients and will act as a perfect assistance tool in healthcare services. **Keywords:** NFC, ANN, JDBC, J2SE. **References:** 1. Geng Yang, Li Xie, Matti M¨antysalo, Xiaolin Zhou, Zhibo Pang, Li Da Xu, Sharon Kao- Walter, Qiang Chen, Lirong Zheng, "A Health-IoT Platform Based on the Integration of Intelligent Packaging, Unobtrusive Bio-Sensor and Intelligent Medicine Box", 2013, IEEE 2. Tania Cerquitelli, Elena Baralis, Lia Morra and Silivia Chiusano, "Data Mining for Better Healthcare: A Path Towards Automated Data Analysis?", 2016, IEEE 3. Amiya Kumar Tripathy, Rebeck Carvalho, Keshav Pawaskar, Suraj Yadav, Vijay Yadav, "Mobile Based Healthcare Management using Artificial Intelligence", 2015, IEEE. 4. Prethi.M, Ranjith Balakrishan, "Cloud Enabled Patient-Centric EHR Management System", 2014, IEEE. 5. Gillian Pearce, Lela Mirtskhulava, Koba Bakuria, Julian Wong, Salah Al-Majeed, Nana Gulua, "Artificila Neural Network and Mobile Applications in Medial Diagnosis", 2015, IEEE. 6. Qiang YE, Tao LU, Yijun LI, Wenjun SUN, "Neural Network with Forgetting: An ANN Algorithm for Customers", 2005, IEEE. 7. https://en.wikipedia.org.	**41-44**
10.	**Authors:**	**Jilna T Joy, Sumi M, Harikrishnan A. I.**	
	Paper Title:	**Microstrip Low Pass Filter using Defective Ground Structures**	
	Abstract: Low pass filter forms the primary and vital component of a transceiver system. Three different methods to design compact microstrip low pass filter are discussed in this paper. All three prototypes contain defective ground structure (DGS) in the ground plane. Type I filter structure is designed with three fingered interdigital slot the ground plane. Type II low pass filter design contains circular DGS pattern, while type III low pass filter consist of many fingered interdigital slots on ground plane. Interdigital slot consists of metal fingers, which enhances the performance of the filter. The resonant frequency can easily be changed by tuning the length of the metal fingers. Based on the comparative study, it is found that the insertion loss is minimum for type III filter design i.e. 0.1dB. The return loss is found to be 26dB, 35.8dB and 21dB for type I, type II and type III low pass filter respectively. **Keywords:** Low pass filter, Defective ground structure, Interdigital slots, Insertion loss, Return loss **References:** 1. Prachi Tyagi, "Design and Implementation of Low Pass Filter using Microstrip Line",International Journal of Latest Trends in Engineering and Technology,2015 2. Aswini kumar,A.K varma, "Design of Compact Seven Poles Low Pass Filter using Defected Ground Structure" electro-2009 3. Xue hui Guan, Guohui Li, Zhewang Ma,"Optimized Design of a Low-Pass Filter Using Defected Ground Structures",APMC 2005 4. Jong-Sik Lim, Chul-Soo Kim,Dal Ahn, Yong-Chae Jeong, Sangwook Nam,"Design of Low-Pass Filters Using Defected Ground Structure,",IEEE transaction on microwave theory and techniques, Vol. 53, No. 8, Aug2005 5. Fu-Chang Chen, Hao-Tao Hu, Jie-Ming Qiu Qing-Xin Chu,"High- Selectivity Low-Pass Filters With Ultrawide Stopband Based on Defected Ground Structures", IEEE transaction on components, manufacturing and packing technology,2015 6. Tamasi Moyra, Susanta Kumar Parui, and Santanu Das,"Design and Development of Lowpass Filter and Harmonics Reduction," International Journal on Electrical Engineering and Informatics Volume 3, Number 3,2011. 7. David M Pozar," Microwave engineering,4th edition. Kiran P.Singh Anurag Paliwal Madhur Deo Upadhyay," Novel Approach for Loss Reduction in LPF for Satellite Communication System",IACC 2013 8. Xi Tian,Yuzhu Wang,Tianyiyi He,"A Rectangular coaxial line low pass filter with simple structure" ,ICEPT 2015 9. Deepthi Gupta,Aneesha upadhyay,Manisha Yadav,Dr. P K singhal,"Design and analysis of low pass planar microstrip filter using left handed SRR structures",MedCOM 2014. 10. Deepthi Gupta,Aneesha upadhyay,Manisha Yadav,Dr. P K singhal," CSRR Based Microstrip Low Pass Filter with Wide Stopband and High Attenuation" ICCIS,2015 11. Faisal Ali,Rajat Jain,Deepti Gupta,Alk Agarwal,,"Design and analysis of low pass elliptical filter" ,CICT 2016. 12. Shuai Liu, Jun Xu , Zhitao Xu," Sharp roll-off lowpass filter using interdigital DGS slot", Electronics letters ,Vol. 51 No. 17, 20th August 2015	**45-48**
11.	**Authors:**	**Anju G. R, Karthik M.**	
	Paper Title:	**Dynamically Building Facets from Their Search Results**	
	Abstract: People are very passionate in searching new things and gaining new knowledge. They usually prefer search engines to get the results. Search engines become an important way to get the information. But many search engines fail to give some request to the users since there are same words which have different meaning such as apple, say it's a fruit, mobile, laptop. So if there is ranking based on these, the searching will be a pleasing experience's. There are some methods for these such as searching based on facets. There are some exiting methods to gain facets from the search results and display the facets such that the user can select corresponding facets. Then the search results will be refined to those particular facets only. In this paper mainly focus on those facets that mean after the facets generation, the facets will be checked before displaying to the user. There are some facets such as "women watch, women's watch " , "Season one, season 1" these two have same meaning so before displaying the facets these similarities should be	**49-53**

	checked and only one facets should be displayed. Part of speech is also checked. Experimental results shows that checking these type similarities improve the facets thus it can improve the searching experiences in many ways. **Keywords:** Faceted search, Facets, Intent **References:** 1. "Automatically Mining Facets for Queries from Their Search Results" IEEE Transactions On Knowledge And Data Engineering, Vol. 28, No. 2, February 2016 Zhicheng Dou, Member, IEEE, Zhengbao Jiang, Sha Hu, Ji-Rong Wen, and Ruihua Song 2. "Facets Mining From Search Results Using BatchSTS Algorithms" in IJARTET, Volume 4, Special Issue 6, April 2017, Anju G R, Karthik M 3. "Comparison: QT (Quality Threshold) And Batch STS Algorithm For Facets Generation" JETIR (ISSN-2349-5162) April 2017, Volume 4, Issue 04, Anju G R, Karthik M 4. W. Kong and J. Allan, "Extracting query facets from search results," in Proc. 36th Int. ACM SIGIR Conf. Res. Develop. Inf. Retrieval, 2013, pp. 93–102. 5. https://en.wikipedia.org/wiki/Discounted_cumulative_gain Google Wikipedia 6. O. Ben-Yitzhak, N. Golbandi, N. Har'El, R. Lempel, A. Neumann,S. Ofek-Koifman, D. Sheinwald, E. Shekita, B. Sznajder, and S.Yogev, "Beyond basic faceted search," in Proc. Int. Conf. Web Search Data Mining, 2008, pp. 33–44. 7. W. Kong and J. Allan, "Extending faceted search to the general web," in Proc.ACMInt. Conf. Inf. Knowl. Manage., 2014, pp. 839–848. 8. "Mining Queries From Search Results : A Survey" Imperial Journal of Interdisciplinary Research (IJIR) Vol-2, Issue-12, 2016, Anju G R, Karthik M	
12.	**Authors:**	**Yogeshwar Patil, Bhushan Pawar, Dipak Chaudari, Bhuvan Mahajan, Khemraj Patil**
	Paper Title:	**Electrical Design and Implementation & Installation of 5kw Solar System**
	Abstract: Solar photovoltaic power generation system is one of the burning research fields these days, even governments are also making plans toward increasing the amount of power generation from renewable energy sources because in future viability and crisis of conventional energy sources will increase. Further government liberalization and technical developments encourage the use of renewable sources for power generation in terms of distributed generation system. In order to rigging the present energy crisis one renewable method is to develop an efficient manner in which power extracts from the incoming son light radiation calling Solar Energy. This thesis deals with the design and hardware implementation of a simple and efficient solar photovoltaic power generation system for isolated and small load up to 5 KW. It provides simple basic theoretical studies of solar cell and its modeling techniques using equivalent electric circuits. Solar Photovoltaic (PV) power generation system is comprising several elements like solar panel, DC-DC converter, MPPT circuit and load, and DC-DC (Boost) converter, MPPT circuit using microcontroller and sensors adopting perturbation and observation method and single phase inverter for AC loads are implemented in hardware in simple manner. **Keywords:** (PV), CDC-DC (Boost), MPPT, AC loads, Solar photovoltaic, government KW. **References:** 1. www.google.com 2. Israel D. Vagner, B.I. Lembrikov, Peter Rudolf Wyder,Electrodynamics of Magneto active Media, Springer,2003, ISBN 3540436944 3. "Energy Sources: Solar" Department of Energy" Retrieved 19 April 2011. 4. International Energy Agency (2014). "Technology Roadmap: Solar Photovoltaic Energy" (PDF). IEA. Archived from the original on 7 October 2014. Retrieved 7 October 2014. 5. Solar Cells and their Applications Second Edition, Lewis Fraas, Larry Partain, Wiley, 2010, ISBN 978-0-470-44633-1 , Section10.2. 6. "sss Magic Plates, Tap Sun for Power". Popular Science. June 1931. Retrieved 19 April 2011.	**54-61**
13.	**Authors:**	**Sheela S, Ravi V.**
	Paper Title:	**Efficient XML Interchange as Encoding Scheme in DDS**
	Abstract: Data Distribution Services has a world wide application in distributed embedded and real time applications. These systems communicate data between computing nodes over a network. DDS when used in time-critical applications like military systems, there is always a need for data being communicated to be delivered in real time. In this article we propose a novel scheme where efficient XML interchange can be used for compression of the data before being communicated between the publisher and the subscriber. This scheme helps in increasing the efficiency of the data transfer by reducing the file size along with encryption of plain text so that unintended person can be avoided reading the data. **Keywords:** middleware, QoS parameters, participant, pre-compression, publisher, subscriber, data-centric **References:** 1. G. Pardo-Castellote, "OMG data distribution service: architectural overview," IEEE Military Communications Conference, 2003. MILCOM 2003. 2. Hadeel T. El Kassabi; Ikbal Taleb; Mohamed Adel Serhani; Rachida Dssouli, "Policy-based QoS enforcement for adaptive Big Data Distribution on the Cloud", IEEE Second International Conference on Big Data Computing Service and Applications (BigDataService), Year 2016 3. Nanbor Wang; Douglas C. Schmidt; Hans van't Hag; Angelo Corsaro, "Toward an adaptive data distribution service for dynamic large-scale network-centric operation and warfare (NCOW) systems," 2008 IEEE Military Communications Conference, Year 2008 4. Paolo Bellavista; Antonio Corradi; Luca Foschini; Alessandro Pernafini, "Data Distribution Service (DDS):A Performance Comparison of Open Splice and RTI Implementations," I IEEE Symposium on Computers and Communications (ISCC), Year 2013 5. Gerardo Pardo-Castellote, Ph.D., "Data distribution service advanced tutorial", Real-Time Innovations, Inc. http://www.rti.com" 6. Juan Ingles-Romero; Adrian Romero-Garces; Cristina Vicente-Chicote; Jesus Martinez, "A Model-Driven Approach to Enable Adaptive QoS in DDS-Based Middleware", IEEE Transactions on Emerging Topics in Computational Intelligence.	**62-65**
14.	**Authors:**	**Shyju S., Prathibha S Nair**
	Paper Title:	**Packet Dropping and Intrusion Detection using Forensic and Flow Based Classification Techniques**

Abstract: Internal Intrusion detection is one of the serious problems in the computer network areas. Most of the computer system uses username and password as login pattern to enter in to the system. This is one of the weakest points of computer security. Some studies claimed that analyzing system calls (SCs) generated by commands can identify these commands and obtains the features of an attack. This paper propose a security system, named the Internal Intrusion Detection and Protection System(IIDPS) to detect insider attacks at SC level by using data mining and forensic techniques in networked data. The IIDPS creates users' personal profiles to keep track of users' usage habits as their forensic features and determines whether a valid login user is the account holder or not by comparing users current computer usage behaviors with the patterns collected in the account holder's personal profile. The idea behind the inside attacker detection in wireless sensor network by exploiting the spatial correlation between the packet ratio, which help to detecting dynamic attacking behaviors The routing is performed to identify the shortest path between each source node and their destination address and residual energy is calculated for each node in the network.

Keywords: Insider attacks, intrusion detection, Flow based classification and System calls.

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Authors:	**Arya V J, Subha V**
Paper Title:	**Tracking the Path of Launch Vehicle using Pulse Compression Technique**

Abstract: Pulse Compression is one of the key steps in the signal processing of a Radar system. Radar system uses Pulse compression techniques to provide the benefits of larger range detection and high range resolution. This is gained by modulating the transmitted signal and after that matching the received echo with the transmitted signal. Matched filter is used as the pulse compression filter which provides high SNR at the output. Matched Filter is a time reversed and conjugated version of the received radar signal. There are several methods of pulse compression that have been used in the past, out of which most popular technique is Linear Frequency Modulation (LFM). This paper deals with the design to develop and simulate pulse compression and matched filter algorithm in MATLAB to study the LFM pulse compression technique. Matched filter is used as the pulse compression filter which provides high SNR at the output. Matched Filter is mathematically equivalent to convolving the received signal with a conjugated time-reversed version of the reference signal. The main application of pulse compression Radars includes tracking of launch vehicles, unwanted particles in space, Missile guidance etc. Here, in this paper we are discussing the pulse compression application in tracking the launch vehicle so as to check whether it had followed the predetermined path or not.

15.

Keywords: Correlation, Chirp, LFM, Matched Filter, Pulse Compression, Radar

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16.

Authors:	**Sagar G. Rautrao, Bhagwan R. Shinde**
Paper Title:	**Numerical Study of Exhaust Manifold using Conjugate Heat Transfer**

Abstract: The Exhaust manifold in the engines is an important component which has a considerable effect on the performance of the I.C engine. The exhaust system of an automobile consists of an exhaust manifold, catalytic converter, resonator & a muffler connected with tail pipe. Hot exhaust gas along with sound waves generated at the end of exhaust stroke is sent to the exhaust manifold through exhaust valve. The exhaust manifold operates under high temperature and pressure conditions. The design of exhaust manifold almost always has to be executed by trial and error through many experiments & analysis. In this paper we have to did numerical study by compare the result fluid analysis with conjugate heat transfer & thermal analysis with conjugate heat transfer using Abaqus software.

Keywords: Exhaust Manifold, Conjugate Heat transfer, Numerical study, Coupling, Abaqus

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17.

Authors:	**Sabitha S V, Jeena R S**
Paper Title:	**Automatic Detection and Localization of Tuberculosis in Chest X-Rays**

Abstract: Tuberculosis is a major health threat in many regions of the world. Opportunistic infections in immune compromised HIV/AIDS patients and multi-drug-resistant bacterial strains have exacerbated the problem, while diagnosing tuberculosis still remains a challenge. When left undiagnosed and thus untreated, mortality rates of patients with tuberculosis are high. Standard diagnostics still rely on methods developed in the last century. They are slow and often unreliable. In an effort to reduce the burden of the disease, this thesis work presents an automated approach for detecting and localizing tuberculosis in conventional postero -anterior chest raadiographs. A set of features are extracted from the lung region, which enable the X-rays to be classified as normal or abnormal using a binary classifier. Then if the chest x-ray is classified as abnormal again a set of local features are extracted to localize the affected regions . Thus it become easy to diagnose and treat the disease. An accuracy of 90% is achieved by this method.

Keywords: Graph cut segmentation, Classification, Local feature extraction.

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Authors:	**Sajini T, Neetha George**	
Paper Title:	**Speaker Independent Text to Speech for Malayalam**	

Abstract: Text to speech (TTS) relates is software which converts text to speech output. TTS has wide range of applications which includes assistive technologies like communication devices for providing voice for voice disabled. These applications require flexibility to provide diverse speakers voice or unique voice as output. Existing corpus based TTS does not provide this flexibility, and changing a voice is time consuming, expensive and tedious since it requires hours of high quality speech corpus. In this work we explore the speaker adaptation technology available in Hidden Markov Model based Text to speech (HTS) for providing speaker variability in Malayalam TTS. Speaker adaptation (SA) using HTS framework has been successfully implemented for foreign languages like English, Japanese etc. but not yet been tried for Indian languages. In this work we try to implement SA using HTS framework as a solution for providing diverse voices, reducing the expenses, time and effort required, in the usual approach for creating a variant/new TTS voice. We have used a combination of the constrained maximum likelihood linear regression (CMLLR) and maximum a posterior probability (MAP) for generating variant voices. A five speaker database with one hour speech from each speaker is used for SA, in which four speakers database is used for training speaker independent average model (SI). SI model was trained with different number of speakers. Average model with 3 speakers gave an intelligible noisy output, and four speakers gave intelligible, good quality and similarity output with rarely occurring distortions. Quality of the system was determined using perceptual scores tested with 15 native speakers. An average word error rate (WER) for 3 and 4 speaker model was 15.65% and 16.2% for paragraphs selected from different domains and 30 sentences gave an average score of 26.82% and 21.14%. The adapted voice model gave a 3.39, 3.59, 3.55 and 3.38 as the Mean opinion score (MOS) for naturalness, intelligibility, degradation and similarity index. The results show that the SA technique for HTS is a quick, easy & less expensive technique that can be successfully used for a phonetic language like Malayalam for providing generating diverse voices for TTS.

Keywords: Speaker adaptation, HMM based TTS, Constrained maximum likelihood linear regression, Maximum a posterior, MAP.

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Authors: **Kavitha S. K, Soumya Kumari L. K.**

Paper Title: **QBIC in Peer –To – Peer Networks using BOVW Model and Split/ Merge Operation**

Abstract: The term QBIC refers to query by image content .it is also known as content based image retrieval. In QBIC the search analysis the content of the image instead of the metadata like keyword, tags or any descriptive information related to an image. The content refers to the main features that are differentiating one image with another image. So in this thesis work focus on how we can retrieve an image from the peer to peer network with low network cost by using QBIC approach. It mainly focuses on two things network cost and workload balance during image retrieval process. It also take consider to the dynamic creation and uploading into the peer to peer networks by using BoVW model and split/merge operation.

Keywords: QBIC, BOVW model, Peer-to-peer networks, split/merge operation.

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20.

Authors: **C. Jayajothi, M. M. Senthamilselvi, S. Arivoli, N. Muruganantham**

Paper Title: **Kinetic, Equilibrium and Mechanistic Studies of Nickel Removal by Glossocardia Linearifolia Stem**

Abstract: An adsorbent prepared from Glossocardia linearifolia Stem, by acid treatment was tested for its efficiency in removing Nickel ion. The process parameters studied include agitation time, initial nickel ion concentration, adsorbent dose, pH and temperature. The adsorption followed second order reaction equation and the rate is mainly controlled by intra-particle diffusion. Freundlich and Langmuir isotherm models were applied to the equilibrium data. The adsorption capacity (Qm) obtained from the Langmuir isotherm plot at an initial pH of 6.0 and at 30, 40, 50, 60 ± 0.50C. The influence of pH on metal ion removal was significant and the adsorption was increased with increase in temperature. A portion of the nickel ion was recovered from the spent AGLS using 0.1M HCl.

Keywords: Activated Glossocardia linearifolia Stem, Nickel ion, Adsorption isotherm, Equilibrium and Thermodynamic parameters, Intra-particle diffusion.

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Authors: **Rayeesa Shariff K, H. N. Suresh**

Paper Title: **Wearable Vital Signs Monitoring System**

Abstract: Microcontroller MSP430 adaptation with an android application is particularly expected for physiological signs observing framework and long distance communication between patient and specialists. This device obtains all sensor data and trades data through secured remote system with low bandwidth, continuously working without human interference. Power from the battery banks will be used by controller to monitor BP, temperature, heart rate levels and transmit SoS data using Wi-Fi with MQTT design exceptionally intended for low bandwidth interface. The system includes control unit, sensory unit, communication unit and battery banks. Expected outcome of this system will use devoted unit for each patient with a secured IP and QoS level three secured MQTT with settled sensors, low power controller with a energy bank will be interfaced and particular firmware using RTOS will be made to do the endeavors.

Keywords: BP, health monitoring, heart rate, MQTT, temperature, pulse oximetry, wireless.

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Authors:	**K. Madhusoodanan Pillaia, Deepak J, K. E. Reby Royb**
Paper Title:	**CFD Investigations on the Liquid Nitrogen Chill down of Straight Transfer Lines and ITS Comparison with Helically Coiled Transfer Lines**

Abstract: Attempts are constantly being made to simulate the momentum and energy interactions involved in cryogenic chill-down process accurately as in real case through CFD. The main difficulty is the lack of reliable data and correlations that compass the parameters associated with cryogenic fluids. This work has taken the much needed first step in studying the effect of varying transfer line geometries on their corresponding chill-down times. Chill-down in helical transfer lines were investigated using validated computational fluid dynamics code (FLUENT 15.0). The time taken to completely chill-down a straight as opposed to a helical transfer line, at constant heat flux, was compared in this study. Important flow quantities for multiphase system such as volume fraction distribution were plotted and displayed. It was found that centrifugal forces due to shape of helical transfer lines play an important role in the phase and temperature distribution in helical pipes. It was also observed that the time taken for complete chill-down of helical transfer lines were much smaller as opposed to a straight transfer lines. It is concluded that future studies are required with improvements in the prediction scheme with detailed two phase correlations.

Keywords: Chill-down, Liquid Nitrogen, CFD analysis, Cryogenics, Helical Transfer lines, Two Phase flow, Flow boiling.

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Authors:	**Kamala Devi V, Premkumar K, Bisharathu Beevi A**
Paper Title:	**Energy Management and Load Dispatch Flow using K-Map for Battery Storage System integrated with Solar Micro Grid Tied Inverters**

Abstract: Intermittency of wind and solar potential necessitate for development of new systems, bringing additional co3mplexity to power system operations and planning. This has led to a new framework for improving the performance of solar Grid Tied inverters installed on the Low Tension Grid of Kerala. The aim is to introduce a Battery Intervention Power Supply (BIPS) integrated with the solar inverter that helps in smoothening the energy output of the inverter and in reducing the sub-harmonic oscillations in the output current waveform. It also helps to improve the performance of the inverter during the low irradiance levels. The excess power is stored in the BIPS during Peak Source Accumulation, power disruptions and when outside the safe operating region of the inverter. This can also be utilized to meet local priority loads. The model of the battery used to study the performance is derived using non-linear regression analysis method of curve fitting. The paper introduces an improved solar plant that reduces the length of distribuion lines delivering good power quality and maintaining grid stability with reduced intermittency of power flow.

Keywords: Grid Tied Inverter with battery storage, Distributed Generation (DG); Solar, Fuzzy-Logic

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Authors: **Fathima Mussarath, K. G Manjunath**

Paper Title: **Secure Distrusted Model for Large Data in Cloud Storage Based on No-SQL Database**

Abstract: Cloud based storage providers bring forth limitless storage capacity and ingress potential to store and retrieve large amount of information. These operations performed by several users lead to increase in the system load on cloud storage. Hence, in order to provide better quality of service to the users, the system has to consider numerous pre-requisites such as efficient management and storage of large files, efficient management of the space (reduce the wastage of storage space) and data protection. In this paper we propose a distributed cloud storage which provides architecture and algorithms to administer the problems of the cloud storage. A less complicated and fixed size metadata design is proposed which diminishes the space unpredictability of metadata. The solution also supports a secure de-duplication mechanism for cross-users, that reduce the operation cost and protects the privacy. The data has to be protected before being uploaded to the cloud storage. The solution makes use of the key-value store no-sql database thus providing distributed and scalable cloud storage for large information.

Keywords: Cloud Storage, No-SQL, Convergent Encryption, Scalable.

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Authors: **Tony Jose, Vijayakumar Narayanan**

Paper Title: **Experimental Study on FPGA Based Nonlinearity Reduction in a Laser Diode**

Abstract: This work aims to reduce the Total Harmonic Distortion (THD) in a laser diode by predistorting the input signal. A predistorted signal is generated using FPGA and this signal is fed to the inherently nonlinear laser diode. The combined effect of predistorted signal and the nonlinear diode characteristics render an overall linear characteristics for the optical transmitter. The design of the FPGA predistorter is the crux of the present work. The optical power versus injection current graph is plotted for the laser diode and based on the characteristics, certain mathematical manipulation is performed to obtain an analytical expression to faithfully reproduce the entire curve. In order to design the predistorter, the inverse function of the nonlinear expression is computed. Based on these data, a lookup table based VHDL code is downloaded onto the Field Programmable Gate Array (FPGA) chip. The FPGA operates entirely in the digital regime, thus suitable interfacing circuitry were rigged up. The harmonic distortion is studied using spectrum analyzer.

Keywords: FPGA, Harmonic Distortion, Laser Diode, Nonlinearity, Predistortion.

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26.

Authors: **Nidhi Shrivastava, Ruchi Jain, Shiv Kumar**

Paper Title: **An Efficient Intrusion Detection System based on Random-Iteration Particle Swarm Optimization**

Abstract: In this paper an efficient framework has been developed for efficient intrusion detection system. In the first step the data NSL-KDD cup99 is divided into k-clusters based on the filtration parameters that are content feature, traffic features and the host feature. The clusters are separated based on the support value. Then random-iteration particle swarm optimization (RI-PSO) has been applied on the cluster for the further data classification. The classification is considered for denial of service (DoS), user to root (U2R), remote to user (R2L) and probe attacks. The results are efficient in comparison to the previous methods.

Keywords: Association rule mining, RIPSO, DoS, U2R, R2L, Probe

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Authors: **Bishwarup Biswas, Ayan Kumar Bhar, Adwitiya Mullick, Mahua Ghosh, Monal Dutta**

Paper Title: **Scaled Conjugate Back-Propagation Algorithm for Prediction of Phenol Adsorption Characteristics**

Abstract: In the present investigation the adsorption characteristics of phenol on the surface of chemically modified natural clay was predicted by using three-layer artificial neural network. The effect of various operational parameters on the adsorption process was determined by using scaled conjugate back-propagation algorithm. For this purpose, a feed forward network (5 - 11 - 1) with a learning rate of 0.02 was constructed. Various transfer functions such as, tangent sigmoid, saturated linear and positive linear were applied to hidden layer whereas pure linear transfer function was used in the output layer. The network performance was defined in terms of mean squared error (MSE) and validation error (VDE). The optimum number of neurons in the hidden layer was found to be 11 with "poselin" and "purelin" transfer functions in the hidden layer and output layer respectively. The MSE and VDE in this case were 2 × 10-5 and 5 × 10-5 respectively.

Keywords: Adsorption, ANN, MSE, VDE.

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28.

Authors:	**Elsamny, M.K., Abd-Elhamed, M.K., Ezz-Eldeen, H.A., Elmokrany, A.A.**
Paper Title:	**Experimental Investigation of using Wooden Lintel and sill with Different Lengths for Strengthening Brick Walls with Openings**

Abstract: The presence of openings can have an effect on the load capacity and cracking regime for brick walls. Often the type and magnitude of cracking indicate the cause of cracks. However, cracks in brick walls appear after construction under working load due to different reasons. The presence of openings in brick wall with conventional length of lintel gives small bearing area. Thus, as a result of concentrated load on part of the wall, corner cracks occur above the openings. In addition, openings divide the wall to two parts, the first part next to the opening act as pillars and are stressed much more than the second part below the opening. Thus, as a result of differential stress, vertical shear cracks occur under opening in the wall. For these reasons, there is a need for redistribution the load by using sill under opening and increasing the bearing area by increasing length of lintel and sill. In the present study, a total of seven brick wall specimens having a wall dimensions (85*65) cm and thickness (10) cm with square opening (25*25) cm were tested .The brick wall specimens were divided into three groups as follow :

i. Group one consisted of wall with R.C lintel length of 35 cm as a control wall.

ii. Group two consisted of three strengthened brick wall specimens by wooden lintel of lengths (L= 35, 50,65cm).

iii. Group three consisted of three strengthened brick wall specimens by wooden lintel and sill of lengths (L= 35, 50,65cm).

All wall specimens were tested under static loads in regular increments from zero up to the crack load then failure load. In addition, wall deformations have been measured by LVDT. A finite element analysis was performed using SAP2000 to define the stress distribution path as well as the expected positions of cracks that might occur in walls with openings using different techniques of strengthening. The obtained test results show that using wooden lintel with length (65cm) gives an increase in the load carrying capacity up to (130 %) from the control ultimate capacity. In addition, using wooden lintel and sill with length (65cm) gives an increase in the load carrying capacity up to (171%) from the control ultimate capacity .However, ductility has been significantly increased. In addition, it was found that strengthening with this technique is durable, economic and easy to apply during construction. The results suggest that adding sill under openings is very effective to overcome and prevent cracks under the working load in the wall and increasing the length of lintel and sill during construction shows the best performance in increasing the load carrying capacity and ductility.

Keywords: Experimental, brick walls, openings, wooden lintel, wooden sill.

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29.

Authors:	**Sakshi Kaushik, Sumit Gupta**
Paper Title:	**Implementation of Open Stack Through Ansible**

Abstract: Open Stack is a free and open source stage under the terms of the Apache permit that has an arrangement of tools for the creation and administration of private, public and hybrid distributed computing. The product is created for a control of an extensive variety of handling, stockpiling and systems administration assets all through a server farm. It can be dealt with as an Infrastructure as a Service demonstrate unequivocally associated with Platform as a Service demonstrate. OpenStack deal with the IT foundation, give correspondence interface, virtualizes assets and develop the enforcement. It gives a design that gives the adaptability in the clouds configuration, incorporating coordination with existing frameworks and third-party technologies. Clients either oversee it through an electronic dashboard. Users either manage it through a web-based dashboard. But the implementation of OpenStack is very complex. To make it easier we can use configuration management tools like puppet, ansible, and chef. Among these, the ansible is very powerful and easy to understand. Ansible uses playbooks and ad-hoc commands to manage the remote system. Using Ansible we are making OpenStack more powerful as because using ansible we can modify and manipulate the backend working of OpenStack according to our need. The configuration of OpenStack is one thing what we want to change is the parameters or attributes that are used by the components of OpenStack. We are putting two of the powerful tools together. That will change the experience of using OpenStack. As such ansible is configuration management tool that will increase the efficiency of the OpenStack.

Keywords: DevOps, OpenStack, Ansible, Cloud Computing, Configuration management tools

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30.

Authors: Nagaraju Kaja

Paper Title: A Review of Energy Efficient Techniques in Vernacular Architecture of North Indian Plains

Abstract: Objectives: This paper explores the building materials and construction techniques that have been used by the people of this region which are the successful examples of the Vernacular Architecture. Methods/Statistical analysis: As the importance of energy is increasing day by day, we keep on exploring new and better energy efficient techniques. In the process, we should also turn back to our past and understand how our ancestors lived a comfortable life in an age when there was no electricity and other modern age equipments. Findings: In India, Northern region is the most populated plain, people have been living there for ages and its architectural character has evolved over time with due understanding of the climate, customs, traditions of the region. This paper tries to identify some of the successful vernacular construction techniques of this region which can be suitably used in today's modern buildings for better comfort conditions. Today's modern buildings consume higher amount of energy and it is very important for us to reduce energy consumption and reserve it for future generations. The vernacular strategies discussed are not only traditional strategies creating good comfort conditions but also have the potential to reduce the energy consumption in buildings. Application/Improvements: Vernacular buildings are climatically responsive shelters and consume less energy for maintaining living conditions and this result to energy efficiency. The findings of this study suggest the possible integration of the vernacular strategies in the energy efficient building design guidelines.

Keywords: Energy efficient strategies, Vernacular Architecture, Indian Plains

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31.	**Authors:**	**Shadrack Mutungi Simon**
	Paper Title:	**Effect of Top Management Support on Resource Planning and Leveling (RP&L) Among Contractors in the Kenyan Construction Industry**

Abstract: Construction as a sector of economy is defined by the economic activity of building and civil engineering works (Bon & Crosthwaite, 2000b). Many authors agree that the construction industry is crucial for the growth of developing economies (Ndaiga, 2014; Giang & Pheng, 2010; Muiruri & Mulinge, 2014; Wachira, 1999; and Cytonn, 2016 among others). This criticality of the construction industry calls for efficient execution of construction projects which are the backbone of the industry. Resource Planning and Leveling has been attributed to improved project performance in terms of cost, time and even quality (Newell, 2002; Mendoza, 1995 and Dubey, 2015). For any project to be successful there should be support from top management. According to Schultz, Slevin, & Pinto, (1987), management support during project implementation is a major determinant to the success or failure of the project. Project management could be regarded as one of the means in which the top management implements its goals and objectives for the firm. This study sought to establish the effect of Top Management Support on Resource Planning and Leveling (RP&L) among Contractors in the Kenyan Construction Industry. Results indicated weak negative (-0.038) statistically insignificant (0.736) relationship between top management Support versus age of firm; a weak positive (0.275) statistically significant (0.048) relationship between extent of top management support and extent of carrying out Equipment Resource Planning (ERP); a very weak positive (0.079) statistically insignificant (0.494) relationship between extent of top management support and extent of carrying out Labour Resource Planning (LRP); a very weak positive (0.162) statistically insignificant (0.156) relationship between extent of top management support and extent of carrying out Material Resource Planning (MRP); a weak positive (0.257) statistically significant (0.022) relationship between extent of top management support and extent of carrying out Equipment Resource Leveling (ERL); a weak positive (0.230) statistically significant (0.041) relationship between extent of top management support and extent of carrying out Labour Resource Leveling (LRL); and a weak positive (0.245) statistically significant (0.029) relationship between extent of top management support and extent of carrying out Material Resource Leveling (MRL).The author recommended that there should be more support by top management with regard to Resource Planning and Leveling since the two variables were found to be directly proportional.

Keywords: Construction Industry, Resource Planning, Resource Leveling, Top Management Support.

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32.

Authors: **M. Neeraja**

Paper Title: **A Study on Unconfined Compressive Strength, Permeability and Swelling Characteristics of Clay and Shredded Tyres Mixture**

Abstract: Soil is the basic foundation for any civil engineering structures. It is required to bear the loads without failure. In some places soil may be weak which cannot resist the oncoming loads in such cases soil stabilization is needed, The clay often is weak and has no enough stability in heavy loading. Stabilization is being used for a variety of engineering works, the most common application being in the construction of road and airfield pavements, where the main objective is to increase the strength or stability of soil and to reduce the construction cost by making best use of locally available materials. With ongoing rise in use of motor vehicles hundreds of millions of tyres are discarded each year throught the world. Many are added to existing tyre dumps or landfills and a significant number for recycling into a useful products.Since highway construction requires large volumes of materials, highway agencies have been encouraged to participate in the recycling effort. Recovering these materials for use in construction requires an awareness of the properties of the materials and the limitations associated with their use. Use of shredded tyres in geotechnical engineering for improving soil properties has received great attention in recent times. Present an attempt has been made through laboratory study to understand the potential of shredded tyres in soil stabilization, which help not only in soil stabilization but also in utilization of waste. Shredded tyres having size 5mm, 10mm, 30mm and 50mm after removing steel belting are used. This paper presents the investigation of clay soil stabilized with shredded tyre. It is found that unconfined compressive strength of clay-shredded tyre mixture were found to be between 0.23 and 0.37kg/cm2. Permeability of clay –shredded tyres is higher compared with that to clay alone. Less swelling and swelling pressure observed on addition of shredded tyres compared with clay alone.

Keywords: Shredded tyres, unconfined compressive strength test, permeability, Swelling, Clay soil.

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33.

Authors: **Tapan Bhavsar, Bhavinkumar Gajjar**

Paper Title: **Image Classification using Convolution Neural Network**

Abstract: Convolution neural network has been mostly used for image classification in machine learning and computer vision. In simple neural network, single layer's feature may not contain enough useful information to predict image class correctly [6]. Using a feed forward CNN, misclassification rate can be reduced by some additional layers that contain acceptable information to predict image class. Also gradient based learning algorithm can be improved to synthesize complex decision that classify high dimensional pattern such as object edges and shape. In this paper, we make effort to modify standard neural network to transfer more information layer to layer. Moreover, already learned CNN model with training images are used to extract features from multiple layers. In this experiment, MNIST and CIFAR 10 dataset have been used to classify random images in 10 different classes labelled airplane, automobile, bird, cat, deer, dog, frog, horse, ship and truck. In the addition, GPU can train CNN faster without giving the preference to hardware.

Keywords: Convolution Neural Network, CIFAR 10, gradient based learning algorithm, Image classification, MNIST, machine learning

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34.	**Authors:**	**Akhilesh Kumar Pandey, Rajeev Singh**
	Paper Title:	**CPW Fed Micro Strip Patch Antenna for Wireless Communication**

Abstract: A novel broadband design of a coplanar waveguide fed micro-strip patch antenna for broadband operations is proposed and are simulated by means of AWR(Microwave Wave Office) and results are experimentally verified. The impedance bandwidth is 71.85% and the resonating frequency is 3.52GHz.The bandwidth is suggestive of ultra wide band operation. The structure can be utilized for GPS, Wi-Fi, WiMAX, GPRS and other wireless communication system.

Keywords: Microstrip patch antenna; GPS; Wide band antenna; CPW fed.

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35.	**Authors:**	**Nilesh Kumar Sen, Navdeep Kaur Saluja**
	Paper Title:	**An Implementation of Security Model using Homomorphic ECC Algorithm for Cloud Environment**

Abstract: Cloud computing is the process of providing services to user in according to their need. All the large enterprises are investing in very large amount in order to provide cloud services. Amazon, Google, Windows are

having their own services which is available to all users in order to have efficient retrieval. In our survey it is find that homomorphic encryption is one of the finer encryption technique but the finest of all encryption technique is elliptic curve encryption. In this work, the comparison of both computation is performed and result are depicted in order to prove the elliptic curve cryptography as better encryption technique.

Keywords: Security; Homomorphic Encryption; Elliptic curve cryptography;

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Authors: **Divyanshu Atre, Lalit Gehlod**

Paper Title: **Analysis and Advancement of Page Replacement Algorithm for web Proxy Server**

Abstract: World Wide Web is growing rapidly and number of users is increasing day by day to access web pages. A Proxy server intercepts all client requests, and provides responses from its cache or forwards the request connects to the real server. Proxies were invented to add structure and encapsulations to distributed systems. The problems of web servers are heavy network traffic and Latency etc. To overcome these problems, proxy server caching is one of the solution. Proxy caching improve the speed of service requests by fetching the store web pages from an earlier request through the same point or even other point. In this research work Page Replacement Algorithm (LRU, LFU, FIFO) have analyzed for proxy server caching and proposed the randomly caching page replacement algorithm. It increases the hit rate with time and reduced execution time on proxy server cache. With the help of proposed algorithm, the performance of proxy server caching has been improved in terms of hit rate and time parameter.

Keywords: Proxy Server, Web cache, Latency, Page Replacement Algorithm (LRU, LFU, FIFO) etc.

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Authors:	**Shruti Deore, Vivek Aranke**
Paper Title:	**Development of Doubly fed Induction Generator Wind Power System with Fuzzy Controller**

Abstract: Power generation from the non-conventional sources is the need of the day. Wind energy is one of the major fields, where various conversion topologies have been proposed in order to produce electric power. Squirrel cage induction generator (SCIG), permanent magnet synchronous generator and doubly fed induction generator (DFIG) are mainly used in wind power generation. The DFIG is a variable speed generator where active and reactive power control is done by power converters. While in SCIG, reactive power requirement is fulfill by compensating device like STATCOM. In this paper we have done mathematical modeling of DFIG generator and matlab simulation is done for grid connected system. Fuzzy controller is implemented in stator side controlling and system is simulated in matlab environment and finally comparison is done with PI controller.

Keywords: doubly fed induction generator, fuzzy-PI controller, power stability, wind energy.

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38.

Authors:	**Nimisha Singh Bais, D. Srinivasa Rao, G.Sriram**
Paper Title:	**Network Path Stability Based Routing Protocol for MANET**

Abstract: An ad hoc network is a mobile wireless network that has no centralized infrastructure and not has fixed access point. Each node in the network also functions as a mobile router of data packets for other nodes. However, due to node mobility, link failures in such networks are very frequent and render certain standard protocols inefficient resulting in wastage of power and loss in throughput. Due to high node mobility the neighbor list of a node might change more often, thereby raising the need for predicting link lifetime for improving reliability in communication. The cases when network size is large or traffic rate is very high, often leads to frequent congestion in the network. In this paper we propose Link Breakage prediction i.e. LBP based on signal strength, energy and position of the dispersed node randomly in network using Ad-hoc on demand Distance Vector routing protocol modification. In this context targeted QoS parameters are selected for performance measurement. So the results demonstrated that proposed mechanism is very effective for ad-hoc network.

Keywords: MANET, AODV, NS-2, Link Prediction, Link Breakage, Routing Protocol, Network Node

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39.

Authors: **Manish Kumar Rana, Hemant Narayan**

Paper Title: **QoS Requirements and Implementation for IMS Network**

Abstract: The issue of converged networks is to ensure the sufficient quality of services for entire duration of communication transmission. This issue is closely connected to real- time services, such as VoIP (Voice over Internet Protocol) and videoconferencing. These services require strict adherence to quality parameters, otherwise their function is not guaranteed. IMS (IP Multimedia Subsystem) resolves this problem in perticular, which concluded on the basis of user profiles can provide the required quality of service. In the latest specifications of the Universal Mobile Telecommunication System (UMTS) networks, the 3GPP defines the IMS technology. That is why the multimedia sessions in the IMS are processed by a set of network elements originally designed to support IP multimedia services in the UMTS. The QoS mapping between IMS services and IP transport is fundamental for maintaining a suitable quality. The differentiation of these two technologies can lead to unpredictable and unwanted behavior for services. The possibility of employing DiffServ and IntServ mechanisms into the IMS environment in order to achieve full QoS support for real time applications is the object of interest.

Keywords: (Voice over Internet Protocol), (IP Multimedia Subsystem), (UMTS), QoS, Networks, IMS, IP, DiffServ and IntServ

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Authors: **Manish Kumar Rana, Hemant Narayan**

Paper Title: **Hardening of Android Based Devices & Plugging the Common Vulnerabilities**

Abstract: Technology has developed at a fast pace in last two decades. With the paradigm shift in technology, it has changed the way humans think and simultaneously posed certain challenges to be dealt with in greater depth. While the earlier impetus was on having single window dispensation, however it is being seen that the single window will also not be required and people will have all digital clearence for any service or transaction. With advent of smart devices, the task has become rather simpler, however challenges of personal data safety and related cyber aspects acquires comparatively larger domain to deal with. This paper deals with hardening of ANDROID OS based communication devices by even a novice user. It attempts to throw light on genesis of ANDROID OS, the commonly known vulnerabilities, their threats and strengthening of these devices against hackers of comparable skills. The paper also attempts to touch as to how these ANDROID OS based communication devices, which are potential tools of being soft targets in cyber domain, can be technologically exploited.

Keywords: ANDROID OS, Technology, vulnerabilities, communication

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41.

Authors: **Mohammad Alizadeh, Mahyar Masoumi, Ehsan Ebrahim**

Paper Title: **Closed Loop Speed Control of Induction Motor using Constant V/F Applying SPWM and SVM Based Inverter**

Abstract: inverter is a type of adjustable-speed drive used to control AC motor speed and torque. With advances in solid-state power electronic devices and microprocessors, various inverter control techniques employing pulse width modulation (PWM) are becoming increasingly popular in AC motor drive application. These PWM-based drives are used to control both the frequency and magnitude of the voltage applied to motors. This paper analysis the speed control system of Induction motor fed by voltage source Inverter with implementation of Proportional Integral (PI)

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controller in the feedback path utilizing constant volt per hertz ratio with two PWM techniques namely, sinusoidal PWM and Space vector PWM. Comparing the performance of SPWM and SVPWM based inverter has been analyzed in MATLAB/Simulink from the analysis of speed regulation, torque ripple and total harmonic distortion.

Keywords: Inverter, Pulse Width Modulation (PWM), Closed Loop Control of Induction Motor, Constant V/F.

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42.

Authors:	**Gomathi R, Rajeeva S.J, Sharada S A, G. Narayana**
Paper Title:	**Design, Planning, Scheduling and Resource Allocation for Slaughter House**

Abstract: This paper deals with the structural Design, Planning, Scheduling and Resource allocation of a proposed slaughter house in Chamarajanagar. It contains analysis, design of the slabs, columns, beams, footing, staircase, Planning, Scheduling and Resource allocation for the project phases of slaughterhouse. Keeping in view the requirement and utilities of the structure dead load and live load have been considered for the analysis and design of the structure. The planning details for the project will be given by experts by comparing previous projects. The dead load, live load and load combination is taken according to IS 875-1893(part 1), IS 875-1893(part 2) and IS 875-1893(part 5) respectively. The design of structural members like slab, beam, column, footing and staircase is carried out as per IS 456-2000. Design and analysis is carried out by a Design and Analysis software i.e STAAD PRO. The Planning, scheduling and Resource allocation for the slaughter house is done to complete the project economically on time by using the Microsoft project software. Scheduling helps to find out the critical path in the project which will help to start the work earlier or find out the alternate solution to avoid the critical path.

Keywords: Design, Planning, Scheduling, Resource location.

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9. IS 875 part 5, "Code of Practice for Design Loads (Other than Earthquake) for Building and Structures, Special Load and Load Combination" BIS New Delhi 1987.

43.

Authors:	**Nadra J. Ali AL-Saad**

	Paper Title:	**Design Robust Data Integrity Scheme in Cloud Computing Based on Image Histogram and Crypto-Hash Function**	
	Abstract: Cloud technologies are revolution in computing world which support on demand access to several virtualized customers and servers which are existed outside of data owner's center. In this computing model, the databases and applications of data owners are arise to the unified large data centers and may be lead to many security issues in the management of data and services. Preserving the secrecy and reliability of the message communicated between the main elements of Cloud considers one of the significant aims of Message Authentication Code (MAC). In this paper, we propose a robust scheme based on image histogram and Crypto-hash function to check the integrity of data message between sender and receiver. This scheme is selected the pixels that located in top peak of histogram to generate more efficient message capacity. As well as, our proposed scheme includes many security features such as resisting the well-known attacks, user's message anonymity, session key agreement, and data integrity for user's message. The security analysis proves that the proposed scheme can resist the public security malicious attacks such as Insider attacks, key recovery attack. Finally, our scheme is efficient in terms of performance. **Keywords:** Cloud Computing, MAC, Insider attack, MAC, Histogram. **References:** 1. S. Singha, Y-S Jeongb, J. Park, A survey on cloud computing security: Issues, threats, and solutions, Journal of Network and Computer Applications, Volume 75, 2016, pp. 200–222. 2. S. Subashini, V. Kavitha, A survey on security issues in service delivery models of cloud computing, Journal of Network and Computer Applications, Vol. 34, no.1, pp. 1-11, 2011. 3. Ali. A. Yassin, H. Jin, A. Ibrahim, W. Qiang, D. Zou, "A Practical privacy preserving Password authentication Scheme for Cloud Computing", Proc. of the IEEE 26th International Parallel and Distributed Processing Symposium Workshops & PhD Forum (IPDPSW'12), May 2012, Shanghai, China, pp.1204-1211. 4. Ali A.Yassin, H. Jin, A. Ibrahim, D. Zou, Anonymous Password Authentication Scheme by Using Digital Signature and Fingerprint in Cloud Computing, Proc. Of the IEEE Second International Conference on Cloud and Green Computing (CGC'12), Nov. 2012, Chain, pp. 282-289. 5. R.L. Rivest. The MD message digest algorithm, In S. Vanstone, editor, Advances in Cryptology - CRYPTO' 10, LNCS 5 , pp. 0 - 11, 2011. 6. Zaid A. Abduljabbar, H. Jin; Ali A. Yassin; Zaid A. Hussien; Mohammed A. Hussain; Salah H. Abbdal; D. Zou, Robust scheme to protect authentication code of message/image documents in cloud computing 7. International Conference on Computing, Networking and Communications (ICNC'16), Feb. 2016, USA, pp. 1-5. 8. Swaminathan, Y. and M. Wu, ―Robust and secure image hashing,‖ IEEE Transactions on Information Forensics and Security, vol. 1, no. 2, pp. 215-229, 2006. 9. N. Rabadi and S. Mahmud, ―Drivers' anonymity with a short message length for vehicle-to-vehicle communications network,‖ Proceedings of the Fifth IEEE Consumer Communications and Networking Conference (CCNC'08), Las Vegas, NV, USA, IEEE, pp. 132-133, Jan. 2008. 10. N. Jamil and A. Aziz, ―A Unified Approach to Secure and Robust Hashing Scheme for Image and Video Authentication, Proceedings of Third IEEE International Congress on Image and Signal Processing (CISP), Yantai, China, pp. 274-278, 2010. 11. R. Sobti1 , G. Geetha, Cryptographic Hash Functions: A Review, IJCSI, vol.9, No. 2, pp. 461-479, 2012. 12. R. Singh, M. Dixit, Histogram Equalization: A Strong Technique for Image Enhancement, International Journal of Signal Processing, Image Processing and Pattern Recognition Vol.8, No.8 (2015), pp.345-352.	**247-251**
44.	**Authors:**	**Bhagyashree Marathe, S. S. Khule**	
	Paper Title:	**Design of Solar Water Pumping System with FCMA Soft Starter**	
	Abstract: This paper presents a novel stand-alone solar powered water pumping system, especially suited for usage in rural or remote areas. In this scheme, inverter drives the induction motor, which drives the water pump. Moreover, the starting ability of an induction motor becomes quite poor due to the drop in the system voltage when the motor starts. For these reason, overall efficiency of an induction motor based drive systems supplied by a PV array is lower. To obtain maximum output power of the solar panel, the inverter is operated at soft start to minimize starting current of motor by using FCMA technology. The use of FCMA helps in variable speed controls, increasing the life of components and reducing the capital cost & maintenance. It also assists in enhancing motor efficiency. **Keywords:** FCMA, Induction Motor, Photovoltaic, Solar Pump, Soft Start. **References:** 1. P Sadasivam, M Kumaravel, Krishna Vasudevan and Ashok Jhunjhunwala, "Analysis of Subsystems Behaviour and Performance Evaluation of Solar Photovoltaic Powered Water Pumping System," IEEE transaction paper – 2013 2. Rayyan Azam Khan, Liaquat Ali Khan, Syed Zahid Hussain, "Design and Simulation of 0.75hp Soft Start AC Water Pump Powered by PV Solar System," Universal Journal of Mechanical Engineering 3(4): 113-121, 2015 3. Geet Jain, Arun Shankar V.K., Umashankar S, "Modelling and Simulation of Solar Photovoltaic fed Induction Motor for Water Pumping Application using Perturb and Observer MPPT Algorithm," IEEE transaction paper – 2016. 4. Mikhail Tsypkin, "Vibration of Induction Motors Operating with Variable Frequency Drives - a Practical Experience," IEEE 28-th Convention of Electrical and Electronics Engineers in Israel-2014. 5. Flavio Palmiro, Joao Onofre Pereira Pinto, Lucio Henrique Pereira, Ruben Barros Godoy, "Cost Effective Photovoltaic Water Pumping System for Remote Regions Communities," IEEE Transactions-2016. 6. A.Betka, A.Moussi, "Optimized Solar Water Pumping System Based On Induction Motor Driving Centrifugal Pump," IEEE Transactions On Industry Applications, Nov-2001. 7. Y.Yao, P.Bustamante, R.S.Ramshaw, "Improvement of Induction Motor Drive Systems Supplied By Photovoltaic Arrays With Frequency Control," IEEE Transactions Energy Conversion, Vol.9, No. 2, June- 1994. 8. S.R.Bhat, Andre Pittet, B.S.Sonde, "Performance Optimization of Induction Motor Pump System Using Photovoltaic Energy Source," IEEE Transactions On Industry Applications, Vol. IA-23, Nov-1987. 9. Eduard Muljadi, Roger Taylor, "PV Water Pumping With Peak Power Tracker Using Simple Six Step Square Wave Inverter," IEEE Transactions Energy Conversion, Nov-1996	**252-254**
45.	**Authors:**	**Rahul Maheshwari, Vivek Kapoor, Sandeep Verma**	
	Paper Title:	**An Improved Classifier Technique for Spam Filtering**	
	Abstract: Email spam or junk e-mail (unwanted e-mail "usually of a commercial nature sent out in bulk") is one of the major problems of the today's Internet, bringing financial damage to companies and annoying individual users.		**255-261**

There are various approaches developed to stop spam, filtering is an important and popular one. Spam or unsolicited e-mail has become a major problem for companies and private users. This paper explores the problems associated with spam and some different approaches attempting to deal with it. Since spam is a major issue for web world thus the most appealing methods are those that are easy to maintain and prove to have a satisfactory performance. A learning algorithm which uses the Naive Bayesian classifier has shown promising results in separating spam from legitimate mail. There are various initial steps involved in spam classifier like Tokenization, probability estimation and feature selection are processes performed prior to classification and all have a significant influence upon the performance of spam filtering. The main objective of this work is to examine and empirically test the currently known techniques used for each of these processes and to investigate the possibilities for improving the Bayesian classifier performance. There are many different approaches available at present attempting to solve the spam issue. One of the most promising methods for filtering spam with regards to performance and ease of implementation is that of Naive Bayesian classifier. The objective of this paper is to explore the statistical filter called Naive Bayesian classifier and to investigate the possibilities for improving its performance.

Keywords: E-mail classification, Spam, Spam filtering, Machine learning, algorithms.

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19. A review of machine learning approaches to spam filtering. Thiago S Guzella, Walmir M. Caminhas.

46.	**Authors:**	**Sunil Kumar Singh, Manshree Mishra, Mahaveer Prasad Sharma, Prahlad Kumar Rahul, Deepti Thakur**
	Paper Title:	**Single Layered Planar Monopole Antenna for High Frequency Applications**

Abstract: In recent years, the most sought after topic in antenna theory and design is the planar monopole antenna and are progressively finding large application in modern microwave system. This paper start with the theoretical explanation of the planar monopole antenna and then focus on the most significant evolution in the planar monopole antenna technology that have been made in the last few year. Emphasis is made on the antenna parameter enhancement technique.

Keywords: Bandwidth, Microstrip Feed Line, Planar Monopole Antenna, Ultra Wideband.

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47.	**Authors:**	**Suresh M. B, B Mohankumar Naik**
	Paper Title:	**Content Based Image Retrieval (CBIR) Using Color, Shape and Texture Features of Image**

Abstract: Content-based image retrieval (CBIR), as we see it today, is any technology that in principle helps organize digital picture archives by their visual content. The increased need of content based image retrieval technique can be found in a number of different domains The such as Agriculture, Data Mining, Research laboratories, Medical Field, Crime Prevention, Weather department , and Management of Earth Resources. Image retrieval based on different components has strong research scope. In this paper we present some technical details about the components used for the retrieval of images and algorithm are also defined for retrieval of images by using the components i.e. color, texture and shape information, and achieve higher retrieval efficiency using dominant color feature.

Keywords: CBIR, Retrieval, color, texture, shape

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48.	**Authors:**	**Ehtesham Patel**
	Paper Title:	**Conservation of Heritage Sites in India**

Abstract: India is a country with a rich stock of heritage sites. This paper highlights the laws which are responsible for the conservation of heritage sites and monuments. These include those issued by the center and those issued by the different states. Guidelines used to declare a site as a heritage site have also been accentuated. Since India has many monuments and heritage sites, the need to conserve them has become imperative as these buildings carry archaeological, historical and artistic value. To conserve the heritage sites, different techniques are employed under the supervision of dedicated experts. However, the process of conservation and preservation of heritage sites is not just limited to scientific and engineering methods; the social dimension of conservation also needs to be addressed.

Keywords: India, stock, methods; addressed.

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49.	**Authors:**	**Kamal Grover**
	Paper Title:	**Comparison of Application Protocols for Resource Constrained Devices and WSN**

Abstract: This paper explains the need for the application protocols needed for wireless sensor network. It explains and compares MQTT and CoAP based on different attributes like architecture, reliability, packet delay, security, quality of service and fragmentation. Finally, it's concluded that choice of protocol is dependent on type service they perform

Keywords: Application, Protocols, Wireless

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Authors:	**Sukanya. K, G. Laxminarayana**
Paper Title:	**A Mesoporous Pipelining Scheme for High Performance Digital Systems using Asynchronous Cache**

Abstract: To relate the increasing behavior of processor and main memory in economical manner, new cache designs and implementations are essential. Cache is liable for themain part of energy consumption. This paper presents an implementation of mesochronous pipelined scheme for high performance digital circuit using asynchronouscache. As a result of the real fact that design of cache memory is time consuming and error prone manner, configurable and synthesizable model generates a particular variety of caches in reproducible and speedy fashion. The mesochronous pipelined cache, implemented by C-Elements which act as a disseminated message passing system. The RTL cache model is implemented in 8×8 multiplier circuit in this paper contains large amount of data and instruction caches and it has a wide array of configurable parameters. Finally, the proposed model produces low delay, reduced area and low power consumption compared to the existing 8 bit multiplication process.

Keywords: Mesochronous pipelined, asynchronous cache, delay, area, power consumption, 8 bit multiplier, RTL model

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51.

Authors:	**Manoj Kumar, Hemant Singh Parihar**
Paper Title:	**Comparative Study of Seismic Performance of Building Having Vertical Geometric Irregularity at Different Floor Levels**

Abstract: Nowadays, as in the urban areas the space available for the construction of buildings is limited. So in limited space we have to construct such type of buildings which have can be used for multiple purposes such as lobbies, car parking etc. To fulfill this demand, buildings with irregularities is the only option available. During an earthquake, failure of structure starts at points of weakness. This weakness arises due to discontinuity in mass, stiffness and geometry of structure. Vertical irregularities are one of the major reasons of failures of structures during earthquakes. To study the behavior of the building having vertical geometric irregularity at different floor levels six models have been considered in this project. All the models were analyzed by using SAP 2000. The methods used for the analysis are static method and response spectrum method.

Keywords: Discontinuity, Earthquake, Geometry, Mass, Response Spectrum Method, Stiffness, Static Method, Vertical Irregularity.

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52.	**Authors:**	**Ather Rehman, Muhammad Aamir Shafi, Nasrullah Khan**
	Paper Title:	**Fabrication of Solar Cells by using Nano-materials and Oxide Composites**

Abstract: Solar Energy is eco-friendly source of energy that can easily be harnessed. ZnO based solar cells were produced. There were number of methods available for synthesis of ZnO like co-precipitation method, sol gel method and gas phase reaction method. ZnO was synthesized using co-precipitation method. It is important to mention here that ZnO particles that were deposited on the ITO slides were produced using ZnCl2 and NaOH in the presence of De Ionized Water. XRD and SEM of ZnO particles were obtained and it is noted that the ZnO sample that was produced in the lab was in good condition. XRD and SEM of thin films was also obtained and analyzed. By the help of these results we were able to know about the structure of ZnO and the phase purity of the thin film. Similarly, crystalline size of nano particles of ZnO was also calculated by applying the Debye Scherrer Formula on the results of XRD of thin films. In the end, IV characteristics of the thin films were obtained by the help of simulator in the presence of light as well as in the dark region.

Keywords: Bandgap, Insolation, Irradiation, Photovoltaic, PV Module, Pyranometer, Solar Cell

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53.	**Authors:**	**Sunil Kumar Singh, Manshree Mishra**
	Paper Title:	**Delta Shaped Planar Monopole Antenna for Super Wide Band Applications**

Abstract: Delta shaped planar monopole antenna employing a triangular slot in the ground plane is proposed. The impedance bandwidth of the proposed antenna is from 2.8603 to 30 GHz for reflection coefficient less than -10 dB. Since the antenna manifests a bandwidth ratio of 10:1, it can be assess as a super wide band antenna and it also cover the frequency range of ultra wide band antenna. Better impedance matching and enhanced bandwidth is achieved by the use of triangular slot on the ground plane. Simulation is done by ANSOFT High Frequency Structure Simulator (ANSOFT HFSS 13.0) which is based on Finite Element Method.

Keywords: Impedance Bandwidth, Monopole Antenna, Reflection Coefficient, Ultra Wideband/super wide band.

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54.	**Authors:**	**Renjin J Bright, Lokesh Kumar P. J**
	Paper Title:	**Computation of Linear Elastic and Elastic Plastic Fracture Mechanics Parameters Using FEA**

Abstract: Linear Elastic Fracture Mechanics (LEFM) parameter Stress intensity factor and Elastic Plastic Fracture Mechanics (EPFM) parameter J-Integral are the most imperative fracture parameters used to determine the structural integrity of components with flaws. This work deals with the evaluation of Stress intensity factor and J-integral for Center Cracked Tensile (CCT) specimens using the versatile Finite Element Analysis (FEA) package ANSYS. Alternate methods used for evaluating stress intensity factor such as stress extrapolation method and displacement extrapolation method have also been demonstrated. Different aspect ratios have been selected for the evaluation. The FEA results have been compared with that obtained by empirical means. An attempt has also been made to compute the critical crack length of a CCT specimen with a center through crack. Evaluation of critical crack lengths have been made under different loading cases, purely with the aid of FEA package ANSYS. J-integral evaluation depends on material non-linearity. The material curve for non-linear analysis have been generated using inverse Ramberg-Osgood relationship. ASTM A 36 steel used for common structural and plate applications is designated as the material for analysis. The ability of FEA to determine the fracture parameters has been successfully studied by this work.

Keywords: Stress intensity factor, J-Integral, Center Cracked Tensile Specimen, Stress Extrapolation, Displacement Extrapolation, Finite Element Analysis, Critical crack length.

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55.

Authors: **Aiswarya.N.R, Smitha.P.S**

Paper Title: **Video Summarization: A Review on Local Binary Pattern and Classification Process**

Abstract: Video summarization system can yield good results if the high level features also called the semantic concepts in video frame are modeled accurately by considering the temporal aspects of the frames. The existing system is context aware surveillance video summarization which is a Domain dependent System. It works only on low level features and correlation between them is extracted and updated using dictionary algorithm in an online fashion. Thus dictionary size increases. In contrast to the existing method, the proposed system is a domain adaptive video summarization framework based on high level features in such a way that the summarized video can capture the key contents by assuring minimum number of frames. One of the high level features extracted is Local binary pattern (LBP).Key frames can be extracted after finding the Euclidean distance between the LBP descriptor in different methods. The key frames are classified using k-means clustering algorithm. The result is compared with several datasets thus showing the effectiveness of the proposed system. The entire work can be simulated using matlab.

Keywords: Euclidean distance; feature extraction; LBP; video summarization

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56.

Authors: **Abhilash Jose M V, Aparna P R**

Paper Title: **Variance Based Method for Signal Separation in Ultrasonic Non-Destructive Testing**

Abstract: This paper proposes a variance based method for ultrasonic defect detection for non-destructive testing of maraging steel. Maraging steel is a carbon free iron-nickel alloy which has superior strength and toughness. It also has a high malleability making possible for it to be easily machined and welded. Maraging steels are used extensively in the space industry for the construction of rocket motor casings, owing to its greater strength and fracture toughness. During its fabrication, defects like cracks may develop in the maraging steel. The cracks have a tendency to grow and spread, eventually leading to the fracture of the material. Non-destructive testing methods like ultrasound testing are used for the regular inspection of maraging steel rocket motor cases. Improving the probability of detection is a demanding task since the space industry has a very rigorous acceptance criteria and the permissibility of defects is very small. The sensitivity and resolution of ultrasonic systems is greatly reduced by the noise in the acquired ultrasound signals produced due to the coarse and textured microstructure of maraging steel. The main goal here is to successfully detect the defect signal hidden in the noise. Defects of a large size may be easier to detect, but the difficulty arises in the case of smaller defects which produces ultrasonic echoes whose amplitude is similar to that of the material noise. Successful detection of these smaller defects is essential for the space vehicle to achieve its designed payload capacity. The method presented here calculates and compares the variance of the acquired ultrasound signals, for separating the defect signal from noise. Further improvement in the detection can be achieved by comparing variance of Fourier transform coefficients of the acquired signals.

Keywords: Maraging steel, non-destructive testing, ultrasound, Fast Fourier transform, QUT 2003, Variance.

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57.

Authors: **Chandu C.B., Suparna Sreedhar A., Nandan S.**

Paper Title: **Analysis of OFDM based V-band RoF Millimeter Wave System with Wireless AWGN Channel**

Abstract: As technology advances, the bandwidth requirement is increasing day by day. These growing needs push the RF carrier frequencies towards the millimeter wavebands. A radio over fiber link schemes with Quadrature Amplitude Modulation (QAM) with 5 Gbps data rate in OFDM format is presented in this paper. The 60 GHz millimeter wave is generated by implementing Frequency Quadrupling techniques. Optical generation method is adopted in this paper. The central office to base station link as well as the base station to mobile station links is

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analysed with the help of simulation software.

Keywords: OFDM, Radio over Fiber, Full duplex, RF down conversion

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58.

Authors:	**Ugendhar Addagatla, V. Janaki**
Paper Title:	**A Novel Back Pressure Algorithm using Shadow in Wireless Ad Hoc Network**

Abstract: In this work, network coding has been recently applied to wireless networks to increase throughput. Back-pressure type algorithms based on the algorithm by Tassiulas and Ephremides have recently received much attention for jointly routing and scheduling over multi-hop wireless networks. We explore the performance of backpressure routing and scheduling for TCP flows over wireless networks. TCP and backpressure are not compatible due to a mismatch between the congestion control mechanism of TCP and the queue size based routing and scheduling of the backpressure framework. We decouple the routing and scheduling components of the algorithm by designing a probabilistic routing table that is used to route packets to per-destination queues. The scheduling decisions in the case of wireless networks are made using counters called shadow queues.

Keywords: Back-pressure algorithm, Congestion control, Probabilistic routing table, Shadow queues

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59.

Authors:	**N. Srinivas, Y. Rajasree Rao**
Paper Title:	**Design of High Speed 5:2 Compressor for Fast Arithmetic Circuits**

Abstract: Multipliers are important components that dictate the overall arithmetic circuits' performance. The most critical components of multipliers are compressors. In this paper, a new 5:2 compressor architecture based on changing some internal equations is proposed. In addition, using an efficient full-adder (FA) block is considered to have a high-speed compressor. The proposed architecture is compared with the best existing designs presented in the state-of the-art literature in terms of power, delay and area.

Keywords: Full-Adder (FA), XOR-XNOR, Multiplexers.

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Authors:	**Narendra Kumar Verma, Hemant Narayan**
Paper Title:	**BER Performance of Free-Space Optical System Over Gamma Gamma Turbulence with Pointing Error**

Abstract: This paper investigates BER performance of free space optical (FSO) communication over gamma-gamma turbulence channel. Which is widely accepted model for moderate to strong atmospheric turbulence condition. By considering Atmospheric turbulence, Pointing error and Atmospheric attenuation a combined Statistical model for intensity fluctuation at the receiver is described for given weather and pointing error condition, a closed form expression is derived for BER performance of FSO communication System.

Keywords: Free-space optical communication, BER, Pointing error, Atmospheric turbulance., atmospheric loss.

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