Volume 3 Issue 9, February 2014

International Journal of Innovative Technology and Exploring Engineering

IJITEE

ISSN : 2278 - 3075
Website: www.ijitee.org

Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.
Exploring Innovation: A Key for Dedicated Services

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S. No	Volume-3 Issue-9, February 2014, ISSN: 2278-3075 (Online) Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.	Page No.

1.

Authors: Debasish Bhaskar, Mousumi Gupta, Rabindranath Bera

Paper Title: Adaptive Mitigation of Jammer & Clutter in an Airborne GMTI scenario using Sample Matrix Inversion Processing

Abstract: In this paper, we propose an adaptive jammer & clutter suppression scheme using digital beam formation (DBF) technology in RADAR with uniform rectangular phased-array antennas. Digital Beam Forming (DBF) algorithm is employed to cover a detection area of long range (2000 m) and angular orientation of [900, -35.260] w.r.t the RADAR platform flying in an Airplane under the airborne scenario. The airplane is actually a carrying a spaceborne radar with its baseband source using linear frequency modulated (LFM) waveform. The RF carrier is used as a single 3 GHz oscillator. The simulation of the flying radar is done with consideration of a ground clutter being generated near to the target zone and also the existence of a wideband Gaussian-distributed barrage-jammer is encountered. The back-end processing uses Sample Matrix Inversion (SMI) of Clutter & Jammer Covariance matrix with subspace-based DBF algorithm [1]. The proposed 3 GHz Adaptive Beamforming and Jammer Suppression (ABJS) in Airborne RADAR can be used for mitigating the Jammers and Clutters in a Ground Moving Target Indicator (GMTI) system prevailing under the war-field condition.

Keywords: Digital beam formation, GMTI, Jammer suppression, Airborne RADAR, Gaussian distributed barrage-jammer.

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2.

Authors: Thiruneelakandan, B., Jeyavel Raja Kumar, T., Dushiyanthan, C., Suresh, R., Karthikeyan, K, Davidraju, D

Paper Title: A Study on Spectral Reflectance with Surface Water Quality and Chlorophyll-A Concentrations in Muthupet Lagoon of Thiruvarur District, Tamilnadu

Abstract: In this paper, processing techniques for field measurements of spectral reflectance on chlorophyll-a in part of Muthupet lagoon, Thiruvarur district, Tamilnadu. This study focused upon improving the accuracy of chlorophyll quantification by applying wavelet analysis to reflectance spectra. Spectral reflectance measurement was carried out 5 different locations using ASD Field spectrometer in month of July 2011. The reflectance factor was computed and analyzed in RS3 software package the compared spectral curve shows peaks between 400 to 850 nm in most of the measuring locations. The chlorophyll-a content in spectral investigated locations 0.046, 2.258, 2.181, 3.569, 2.378 □ g/l. Our results show that spectral signatures for chlorophyll-a observed in the lagoon and the field had similar characteristics with high reflectance in visible region of the spectrum from 500 to 650 nm, but low in the NIR region from 750 to 850 nm.

Keywords: chlorophyll-a, Reflectance, Spectral Signature.

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3.

Authors: **Viktor Iliev, Darko Babunski, Igor Seso, Saso Andovski**

Paper Title: **Direct Digital Control of HVAC System and CO2-Based Demand Controlled Ventilation**

Abstract: In modern world, 'saving' or 'cut down costs' are commonly used expressions. As an answer to the demands, the idea of integrated facility management and building automation, as part of it, has been proposed and recognized. While overall operating costs of a building may represents as much as 75% of all the expenses incurred on the building, they can be reduced 25% by means of integrated facility management comprising all system functions during the life cycle of the building which is one step closer to energy efficient and environmental aware buildings. That is the point that is worth thinking. This paper presents simulation model and structure of a SCADA application for Direct Digital Control(DDC) of HVAC (Heating Ventilation and Air-Conditioning) system in cooling/heating mode and design a system that provides suitable air quality in school through the existing air conditioning system using CO2-based demand controlled ventilation. For simulation of this applications, PLC model number Siemens S7-200 is used, extended with an analog module EM235. Program package Micro WIN Step7 is used for control algorithm creation. SCADA application in software package WinCC is used for visualization and monitoring the work of the HVAC system.

Keywords: HVAC system, PLC, SCADA, DDC, CO2 demand controlled ventilation.

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4.

Authors: **Tejaswini Dilip Patil, Kaustubh Dilip Patil, Sunil M. Mahajan**

Paper Title: **Efficient Use of Renewable Energy in Train and Railway Station**

Abstract: the quick social economic development of Vietnam stimulates great demand of quality as well as quantity on transport service by the increasingly growing needs of customer for transportation. The railway passenger transport is currently still an important branch of a country's transport system because it is safer, more eco-friendly and much more efficient in comparison to another means. However, the increasing of the number of passengers is the main causes of fast increasing waste amount from the rail service. The aim of this paper is to study how the organic waste from rail service is managed and treated today by the Vietnam railways. The paper ends with some proposal solutions for treating and disposing of organic waste by applying renewable energy technologies for climate change mitigation to protect human health and the environment. We propose an electricity supply system suitable for public transportation. In this system, solar cells are installed on the roof of the platform. Wind turbines and water wheels are built around the station. Electric double layer capacitors (EDLCs) are installed at the station, and EDLCs are always charged by renewable energy. EDLCs are also mounted on the railcar. When the railcar stops at the station, EDLCs of the railcar are rapidly charged from EDLCs of the station. The battery driven light rail vehicle developed by Railway Technical Research Institute consumes the electricity of 2.5kWh per kilometer. Assuming that interval

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between stations is 500m; railcar needs 1.3kWh to reach the next station. If we assume that railcars arrive and depart every 10 minutes, and railcars are operated for 18 hours a day, the power generation capacity of 99,000kWh is necessary at each station in one year.

Keywords: Renewable energy, Solar energy, Wind energy, Biogas system.

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Authors:	**Seyed Arsalan Hoseyni, Javad Zaree, Pejman, Masoud Zahedizadeh**	
Paper Title:	**Feature Selection for Application on Predicting Alzheimer's Disease Progress**	

Abstract: In this paper, the Bayes classifier is used to predict Alzheimer's disease progress. The classifier is trained on a subset of the Alzheimer's Disease Neuroimaging Initiative database. Subjects are diagnosed by doctors as belonging to healthy, mild-cognitive impaired, and Alzheimer's disease class. A software tool for features selection and time regression is developed. The tool utilizes a variant of the Sequential Forward Selection (SFS) algorithm for feature selection, where the criterion used for selecting features is the correct classification rate of the Bayes classifier. The tool also employs linear regression to predict future values of selected biomarkers from past measurements, so that future class of the subject can be predicted.

Keywords: feature selection, alzheimer, prediction

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6.	**Authors:**	**Mojtaba Mohseni, Abdolhamid Sohrabi, Ali Ghareaghaji**	
	Paper Title:	**A Survey to Micro Grids and Its Applications**	
	Abstract: Application of individual distributed generators can cause as many problems as it may solve. A better way to realize the emerging potential of distributed generation is to take a system approach which views generation and associated loads as a subsystem or a "microgrid". During disturbances, the generation and corresponding loads can separate from the distribution system to isolate the microgrid's load from the disturbance (providing UPS services) without harming the transmission grid's integrity. This ability to island generation and loads together has a potential to provide a higher local reliability than that provided by the power system as a whole. In this model it is also critical to be able to use the waste heat by placing the sources near the heat load. This implies that a unit can be placed at any point on the electrical system as required by the location of the heat load. **Keywords:** microgrid, distributed generation, CHP, intentional islanding, voltage droop, power vs. frequency droop, inverters. **References:** 1. M. Valenti "Reaching for 60 percent, the General Electric H turbine system taking shape in Wales is making a bid for a new record in thermal efficiency." Mechanical Engineering, April 2002. 2. Colleen Williams, "CHP Systems," Distributed Energy, March/April 2004, pp.57-59. 3. Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy, "2001 BTS Core Databook," Office of Building Technology, July 13, 2001 4. Lasseter, R.," MicroGrids," IEEE PES Winter Meeting, January 2002 5. Zang, H., M.Chandorkar, G. Venkataramanan, "Development of Static Switchgear for Utility Interconnection in a Microgrid." Power and Energy Systems PES, Feb. 24-26, 2003, Palm Springs, CA. 6. Illindals, M., G. Venkataramanan, "Battery Energy Storage for Stand- Alone Micro-Source Distributed Generating System," 6th IASTED Intl. Conf. On power and Energy Systems.	**27-31**
7.	**Authors:**	**H.I Jaafar, S.Y.S Hussien, N.A Selamat, M.S.M Aras, M.Z.A Rashid**	
	Paper Title:	**Development of PID Controller for Controlling Desired Level of Coupled Tank System**	
	Abstract: The industrial application of Coupled Tank System (CTS) are widely used especially in chemical process industries. The overall process need liquids to be pumped, stored in the tank and pumped again to another tank for certain desired level. Nevertheless, the level of liquid in tank need to be controlled and flow between two tanks must be regulated. This paper presents development of Proportional-Integral-Derivative (PID) controller for controlling the desired liquid level of the CTS. Various conventional techniques of PID tuning method will be tested in order to obtain the PID controller parameters. Simulation is conducted within MATLAB environment to verify the performances of the system in terms of Rise Time (Ts), Settling Time (Ts), Steady State Error (SSE) and Overshoot (OS). Four techniques which are trial and error method, auto-tuning method, Ziegler-Nichols (Z-N) method and Cohen-Coon (C-C) method will be implemented and all the performance results will be analyzed. It has been demonstrated that performances of CTS can be improved with appropriate technique of PID tuning methods. **Keywords:** Coupled Tank System (CTS), PID Controller, PID Tuning Method, Water Level Control. **References:** 1. M. F. Rahmat and S.M. Rozali, "Modelling and Controller Design for a Coupled-Tank Liquid Level System: Analysis & Comparison", Journal of Technology, vol. 48 (D), June. 2008, pp. 113-141. 2. Kealy, T. and O' Dwyer, A. "Comparison of Open and Closed Loop Process Identification Techniques in the Time Domain", Proc. of the 3rd Wismarer Automatisierungs Symposium, Wismar, Germany, Sept. 2001, pp. 3-4. 3. S. N. Basir, H. Selamat, H. Yussof, N. I. Zahari and S. Shamsuddin, "Parameter Estimation of a Closed Loop Couple Tank Time Varying System using Recursive Methods", IOP Conf. Series: Materials Science and Engineering, vol. 53, Dec. 2013, pp. 1-10. 4. Gilson, M. and Van Den Hof, P. "Instrumental Variable Methods for Closed Loop System Identification", Automatica, vol. 48 (2), Feb. 2005, pp. 241-249. 5. Coupled-Tank Liquid Level Computer-Controlled Laboratory Teaching Package: Experimental and Operation (Service) Manual, Augmented Innovation Sdn. Bhd., Kuala Lumpur, Malaysia 6. N. Hasim, M. S. M. Aras, M. Z. A. Rashid, A. M. Kassim and S. S. Abdullah, "Development of fuzzy logic water bath temperature controller using MATLAB," 2012 IEEE International Conference on Control System, Computing and Engineering, 23-25 Nov. 2012, Penang, Malaysia, pp. 11-16. 7. M. Z. A. Rashid, T. A. Izzuddin, N. Abas, N. Hasim, F. A. Azis and M. S. M. Aras, "Control of Automatic Food Drive-Through System using Programmable Logic Controller (PLC)," International Journal of U-& E-Service, Science & Technology, vol. 6 (4), 2013. 8. M. Z. A. Rashid, M. S. M. Aras, H. N. M. Shah, W. T. Lim and Z. Ibrahim, "Design and system parameter's validation of the unicycle mobile robot," 2012 International Conference on Control, Automation and Information Sciences, 26-29 Nov. 2012, Vietnam, pp. 311-316. 9. M. Z. A. Rashid and S. N. Sidek, "Dynamic modeling and verification of unicycle mobile robot system," 2011 4th International Conference on Mechatronics, 17-19 May 2011, Kuala Lumpur, Malaysia, pp 1-5. 10. M. S. M. Aras, S. N. S. Salim, Eric Chee Sai Hoo, and M. H. Hairi, "Comparison of Fuzzy Control Rules Using MATLAB Toolbox and Simulink for DC Induction Motor-Speed Control", IEEE International Conference of Soft Computing and Pattern Recognition, 2009. SOCPAR'09, pp 711-715. 11. M.S.M Aras, M.F. Basar, N. Hasim, M.N. Kamaruddin, and H.I. Jaafar, "Development and Modeling of Water Tank System Using System Identification Method", International Journal of Engineering and Advanced Technology, Aug. 2013, pp. 278-283. 12. N. A. Selamat, N. A. Wahab, and S. Sahlan, "Particle Swarm Optimization for Multivariable PID Controller Tuning", 2013 IEEE 9th International Colloquium on Signal Processing and its Applications, 8 - 10 Mac. 2013, Kuala Lumpur, Malaysia, pp. 170-175. 13. H. I. Jaafar, Z. Mohamed, J. J. Jamian, A. F. Z. Abidin, A. M. Kassim and Z. A. Ghani, "Dynamic Behaviour of a Nonlinear Gantry Crane System," Procedia Technology, vol. 11 (C), 2013, pp. 419-425. 14. H. I. Jaafar, Z. Mohamed, A. F. Z. Abidin and Z. A. Ghani, "PSO-Tuned PID Controller for a Nonlinear Gantry Crane System," 2012 IEEE International Conference on Control System, Computing and Engineering, 23-25 Nov. 2012, Penang, Malaysia, pp. 515-519. 15. H. I. Jaafar, M. F. Sulaima, Z. Mohamed and J. J. Jamian, "Optimal PID Controller Parameters for Nonlinear Gantry Crane System via MOPSO Technique," 2013 IEEE International Conference on Sustainable Utilization and Development in Engineering and Technology, 30 May – 1 June, 2013, pp. 86-91.	**32-36**

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8.

Authors: **Goran Radoičić, Miomir Jovanović, Lepoje Ilić, Bratislav Blagojević**

Paper Title: **Expert Shell for On-line Dynamic Control of a Transportation Process**

Abstract: New technologies reach public utility enterprises with difficulty and are slow in finding their everyday application in less developed cities and municipalities in Serbia, particularly when it comes to the utilities of public interest to urban areas. Certain developmental attempts to introduce new technologies have provided initial results, primarily in increasing the effectiveness and optimization of certain work process costs. These attempts are present in a small number of communities and utility companies. This paper provides an example of an advanced system (expert shell) for controlling the process of solid waste collection and transportation within the fleet management system of a public utility company. Characteristic control methods, which are based on tracking the selected parameters in real-time and post-processing of the realized vehicle routes, are shown in the paper. Part of the original software algorithm to support the monitoring of the system and the analysis of the obtained results is also shown. The paper indicates the importance of using modern GPS technology in improving similar systems of city logistics. The original measured and calculated vehicle tracking parameters were used in the paper.

Keywords: Expert approach, fleet management, GPS application, signal processing, telecommunications.

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9.

Authors: **Mukta Ranjan Singha, Bichitra Kalita**

Paper Title: **Uninterrupted Traffic Flow at Junctions with Special Reference to Guwahati City**

Abstract: In Urban area congestion mostly occurs at the junctions. Junctions are the intersection of roads, where the flow of the vehicles is controlled by traffic police or traffic lights. When the flow of vehicles increases at the junctions, it causes traffic jams and stream of vehicles incur longer waiting time. When there is a crossing at a junction, a stream of vehicle has to wait for others. Sometimes, the longer stream of waiting vehicles at the junctions causes stalemate situation. Design of an uninterrupted traffic flow system at the traffic junctions without have to wait for others will lead to minimize severe traffic congestion. We have proposed a traffic flow system at the junctions to make the flow of traffic streams an uninterrupted flow system. This will also lead to design of a traffic light and traffic police free system at the junctions of urban traffic roads.

Keywords: Urban Traffic Network, Traffic Flow, Traffic Junction, Optimization of Traffic Flow, Traffic path optimization.

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10.	**Authors:**	**K.M Pandey, Gautam Choubey**
	Paper Title:	**Numerical analysis of Hypersonic Combustion of a Scramjet Combustor with a Central lobed Strut Injector at Flight Mach Number 7**

Abstract: A numerical study of the inlet-combustor interaction and flow structure through a scramjet engine at a flight Mach number M = 7(Hypersonic Combustion) is presented. The scramjet configuration incorporates an inlet with an 8 degree compression ramp, followed by an isolator, and a divergent combustor. Fuel is injected at supersonic speed (M=2) through a central strut injector. The shape of the strut is chosen in a way to produce strong stream wise vorticity and thus to enhance the hydrogen/air mixing. To investigate the influence of the central injector on the flow behavior, reacting cases have been studied. For the reacting cases, the shock wave pattern is modified due to the strong heat release during combustion process. The shock structure and combustion phenomenon are not only affected by the geometry, but also by the flight Mach number and the trajectory. The k-ε realizable computations are capable of predicting mixing and combustion simulations well and good. For all reacting cases, fuel-air stoichiometric conditions are used.

Keywords: Scramjet, Hypersonic Combustion, k-ε realizable model, Flameholder.

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11.

Authors: **D. Sudha, J. Priyadarshini, A. Ranjidha**

Paper Title: **Histology Based Image Retrieval in Multifeature Spaces**

Abstract: Content-based histology image retrieval systems have shown great potential in supporting decision making in clinical activities, teaching, and biological research. In content-based im-age retrieval, feature combination plays a key role. It aims at en-hancing the descriptive power of visual features corresponding to semantically meaningful queries. It is particularly valuable in his-tology image analysis where intelligent mechanisms are needed for interpreting varying tissue composition and architecture into histological concepts. This paper presents an approach to auto-matically combine heterogeneous visual features for histology im-age retrieval. The aim is to obtain the most representative fusion model for a particular keyword that is associated with multiple query images. The core of this approach is a multiobjective learn-ing method, which aims to understand an optimal visual-semantic matching function by jointly considering the different preferences of the group of query images. The task is posed as an optimization problem, and a multiobjective optimization strategy is employed in order to handle potential contradictions in the query images associated with the same keyword. Experiments were performed on two different collections of histology images. The results show that it is possible to improve a system for content-based histology image retrieval by using an appropriately defined multifeature fu-sion model, which takes careful consideration of the structure and distribution of visual features.

Keywords: Content-based image retrieval (CBIR), feature fusion, histology image retrieval, multiobjective optimization.

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12.

Authors:	**Narendra Singh Thakur, Ritu Chauhan**
Paper Title:	**SER Vs SNR Performance Comparison of 3-Time Slot QSTBC for Rician Fading Channel**

Abstract: In this paper, we evaluate and compare the SER performance of few quasi-orthogonal space-time block codes (QOSTBCs) with three time slots for two transmit antennas. The decoding used is ML and fading channel is Rician. We observe that codes proposed in [14] performs better than the codes of [6].

Keywords: Orthogonal space-time block codes (OSTBCs), Quasi-orthogonal space-time block codes (QOSTBCs), Quasiorthogonal space-time block codes with 3 time slots (3TSQOSTBCs), Maximum-likelihood (ML) decoding, Bit error rate (BER), Long term evolution-Advanced (LTE-A).

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13.

Authors:	**Deepika Sandhu, Ruchi Pandey**
Paper Title:	**Energy Saving Opportunity in a Waste Water Treatment Plant**

Abstract: About 90 per cent of sewage and 70 per cent of waste water including industrial and domestic domains in developing countries are discharged without treatment, often polluting the usable water supply and also causes massive harm to the marine life as well, for the very fact that the ultimate destination for all the water sources and streams is ultimately the sea. Although the sewage is 99% pure water, still the approximate 1% is harmful to a very large extent. While talking about the economics, a major part is dedicated to the machinery and installation costs, while a considerable portion is also inclined towards the energy costs. In a conventional waste water treatment plant, working on conventional activated sludge process, a portion of energy is spent in operation of the primary clarifiers. If the Extended Aeration process is followed, the energy spent in the operation of primary clarifiers will not be required and thus, without affecting much of the plant operation, for small establishments. A similar waste water treatment plant working on activated sludge process is in operation at an educational institution, namely Educational Institution in Jabalpur. Originally, the plant is working on Activated Sludge Process. Process modification has been suggested in the research work. Also, an aspect of environmental modeling has been highlighted.

Keywords: BOD(Biochemical Oxygen Demand),TSS(Total Suspended Solids), Activated Sludge Process, Extended Aeration Process,Process,Modification,Energy.

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14.

Authors: **Ram.Subbiah, S.Satheesh, Shoan C.Sunny, G.Kishor, K.Fahad, R.Rajavel**

Paper Title: **Assessment of Properties on AISI 316LN Austenitic Stainless Steel Material under Low Temperature Liquid Nitriding Processes**

Abstract: Austenitic stainless steels have been widely used in highly corrosive environments for power generation, chemical, fertilizer, marine, and food and petrochemical reactors. These materials are well known for their good corrosion resistance and mechanical properties like strength etc. However, because of its low hardness and wear resistance their applications are greatly limited. Nevertheless, the performance of these alloys can improved further for both aqueous and high temperature applications and environments by case hardening techniques like carburizing, nitriding and so on. These surface hardening processes offer high corrosion resistance in addition to, improved hardness and wear resistance. In the present study, the effect of gas nitriding on the properties like micro hardness, corrosion resistance and wear resistance of type AISI 316LN grade austenitic stainless steels were investigated. The salt bath nitriding was carried out at a temperature of 5000C for durations of 60, 90 and 120 minutes with a post oxidation process for a period of 30 minutes and named as SBN1, SBN2, SBN3 respectively. The resultant inter metallic phases were analyzed with optical microscope and micro hardness tester for micro hardness, micro structural changes, nature and compositions of the diffused elements. It has been found that the matrix element interacted with alloying elements and formed a 'ξ ' phase or 's' phase consisting of hard complex Fe-Cr nitrides. These phases showed significant influence on the properties. From the experiment results, it was observed that gas nitriding increases the micro hardness to a considerable amount. A maximum of 1410Hv could be obtained on the austenitic grade stainless steel specimens, which were investigated among the various specimens, in order to improve the wear resistance. The untreated specimens were compared with the nitride specimen.. The reason for the increase in the micro hardness could be attributed to the presence of the Mo and the other alloying elements in the solid solution. The value of hardness at the surface level increases with the diffusion time up to a certain level. Beyond this, limit further increase in diffusion duration does not have any impact on the surface hardness. To evaluate the effect of post-oxidation on nitrided specimen's corrosion and tribological properties were determined. From the results, it was observed that post- oxidation has no significant effect on the hardness but improves the corrosion resistance in comparison with non-oxidized specimen in a larger factor. Also it was observed that the change in the properties was due to the formation iron oxide layer on the specimen and especially during the subsequent treatment in the oxidizing bath. From the micro structural analysis of the nitrided specimens, the case depths were observed to be about 20 -50 microns (μm).

Keywords: stainless steels, nitriding, micro hardness, corrosion resistance, microstructure

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15. **Authors:** **Vijay Jumb, Mandar Sohani, Avinash Shrivas**

	Paper Title:	**Color Image Segmentation Using K-Means Clustering and Otsu's Adaptive Thresholding**	
	Abstract: In this paper, an approach for color image segmentation is presented. In this method foreground objects are distinguished clearly from the background. As the HSV color space is similar to the way human eyes perceive color, hence in this method, first RGB image is converted to HSV (Hue, Saturation, Value) color model and V (Value) channel is extracted, as Value corresponds directly to the concept of intensity/brightness in the color basics section. Next an Otsu's multi-thresholding is applied on V channel to get the best thresholds from the image. The result of Otsu's multi-thresholding may consist of over segmented regions, hence K-means clustering is applied to merge the over segmented regions. Finally background subtraction is done along with morphological processing. This proposed system is applied on Berkley segmentation database. The proposed method is compared with three different types of segmentation algorithms that ensure accuracy and quality of different types of color images. The experimental results are obtained using metrics such as PSNR and MSE, which proves the proposed algorithm, produces better results as compared to other algorithms. **Keywords:** Color image segmentation, HSV color space, Otsu's multi-thresholding, K-means clustering, morphological processing, PSNR and MSE. **References:** 1. Rajeshwar Dass, Priyanka, Swapna Devi, "Image Segmentation Techniques", International Journal on Electronics & Communication Technology (IJECT), Vol. 3, Issue 1, pp. 66-70, Jan. - March 2012. 2. N. R. Pal, S. K. Pal,"A Review on Image Segmentation Techniques", Pattern Recognition, Vol. 26, No. 9, pp. 1277-1294, 1993. 3. W. X. Kang, Q. Q. Yang, R. R. Liang,"The Comparative Research on Image Segmentation Algorithms", IEEE Conference on ETCS, pp. 703-707, 2009. 4. H. G. Kaganami, Z. Beij,"Region Based Detection versus Edge Detection", IEEE Transactions on Intelligent information hiding and multimedia signal processing, pp.1217-1221, 2009. 5. C. Zhu, J. Ni, Y. Li, G. Gu,"General Tendencies in Segmentation of Medical Ultrasound Images", International Conference on ICICSE, pp. 113-117, 2009. 6. V. K. Dehariya, S. K. Shrivastava, R. C. Jain,"Clustering of Image Data Set Using K-Means and Fuzzy K-Means Algorithms", International conference on CICN, pp. 386- 391, 2010. 7. Md. Habibur Rahman, Md. Rafiqul Islam, "Segmentation of Color Image using Adaptive Thresholding and Masking with Watershed Algorithm", IEEE, 2013. 8. N.Otsu, "A threshold selection from gray level histograms", IEEE Trans. Systems, Man and Cybernetics, vol.9, pp. 62-66. Mar. 1979. 9. T. Saikumar, P. Yugander, P. Murthy and B.Smitha, "Colour Based Image Segmentation Using Fuzzy C-Means Clustering," International Conference on Computer and Software Modeling IPCSIT, IACSIT Press, Vol. 14, 2011. 10. Kumar and P. Kumar, "A New Framework for Color Image Segmentation Using Watershed Algorithm," Computer Engineering and Intelligent Systems, Vol. 2(3), pp. 41-46, 2008. 11. R. Vijayanandh, G. Balakrishnan, "Hillclimbing Segmentation with Fuzzy C-Means Based Human Skin Region Detection using Bayes Rule," European Journal of Scientific Research (EJSR), Vol. 76(1), pp.95-107, 2012. 12. C. Mythili and V. Kavitha, "Color Image Segmentat ion using ERKFCM," International Journal of Computer Applications (IJCA), Vol. 41(20), pp. 21-28, 2012. 13. Z. Wang, A. Bovik, H. Sheikh, and E. Simoncelli, "Image quality assessment: from error visibility to structural similarity," IEEE Trans. IP, Vol. 13, pp. 600-612, 2004. 14. The Berkley Segmentation Database and Benchmark. [online] http://www.eecs.berkley.edu/-Research/Projects/CS/vision/bsds/. 15. Md. Habibur Rahman, Md. Rafiqul Islam, "Segmentation of Color Image using Adaptive Thresholding and Masking with Watershed Algorithm", IEEE, 2013.	**72-76**
16.	**Authors:**	**Tanvi Dharmarha, Ajay Jain**	
	Paper Title:	**Load Testing Strategy Review When Transitioning to Cloud**	
	Abstract: The core objective of testing is to certify the product to a quality level at which the application is ready for releasing to the end customers. Apart from functional parameters, there are many other key parameters, especially operational parameters, which play a major role in deciding how the testing is performed. This paper focusses on reviewing the strategy for load testing and changes that a testing team undergoes when transitioning their in-house infrastructure to the cloud. Further to this, the paper also talks about the advantages and efficiencies for the testing team, when shifting to cloud. **Keywords:** Cloud Testing, Infrastructure, Load Testing, Testing Efficiency,	**77-82**
17.	**Authors:**	**Mohini Reddy, Vidya Sawant**	
	Paper Title:	**WSN based Parameter Monitoring and Control System for DC Motor**	
	Abstract: Wireless based industrial automation is a prime concern in our day-to-day life. The approach to Zigbee Based Wireless Network for Industrial Applications has been standardized nowadays. In this paper, a wireless control and monitoring system for a D.C motor is realized using the Zigbee communication protocol for safe and economic data communication in industrial fields where the wired communication is either more expensive or impossible due to physical conditions. The D.C motor can be started and stopped wireless due to the computer interface developed with Zigbee. It is also possible to protect the motor against some faults such as over current, higher/lower voltage, over temperature in windings, overloading of motor. Moreover, a database is built to execute online measurements and to save the motor parameters received by radio frequency (RF) data acquisition system. Therefore, controlling, monitoring, and protection of the system are realized in real time. Since the wireless communication technology is used in this study, controlling abilities of the system are increased and also hardware and the necessities of other similar equipment for data communication are minimized. The system is fully controlled by the Personal Computer through Visual Basics GUI (Graphical User Interface).The GUI is developed based on application by the user. All the processor and controllers are interconnected to personal computer through Zigbee. The Personal Computer will continuously monitor all the Data from remote processing unit and compare with value preloaded process structure. If any error is found the personal computer takes necessary action. An 8- bit AVR	**83-87**

microcontroller has been used to interface the sensor using the IEEE 802.15.4 standard, ZigBee protocol. ZigBee has the characteristics of low power consumption, low cost and self organizing features. The designed embedded system can be used in applications such as food industry, chemical industry, etc.

Keywords: DC Motor, Control and monitoring System,Wireless communication, Zigbee Networks.

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18.

Authors: **Lalit Dhande, Priya Khune, Vinod Deore, Dnyaneshwar Gawade**

Paper Title: **Hide Inside-Separable Reversible Data Hiding in Encrypted Image**

Abstract: Recently, more and more attention is paid to reversible data hiding (RDH) in encrypted images, since it maintains the excellent property that the original cover can be losslessly recovered after embedded data is extracted while protecting the image content's confidentiality. All previous methods embed data by reversibly memory space from the encrypted images, which may be subject to some errors on data extraction and/or image restoration. In this paper, we propose a novel method by reserving memory space before encryption with a traditional RDH technique, and thus it is easy for the data hider to reversibly embed data in the image. The proposed method can achieve real reversibility, that is, data extraction and image recovery are free of any error.

Keywords: Data Encryption, Reversible Data Hiding, Image Encryption, Privacy Protection, Data Extraction.

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19.

Authors: **P. Samundiswary, K Dilip**

Paper Title: **Performance Analysis of Energy Aware LAR Protocol in IEEE 802.15.4 based Mobile Wireless Sensor Networks**

Abstract: In this paper, performance analysis of energy aware Location Aided Routing (LAR) Protocol is done for IEEE 802.15.4 based Mobile Wireless Sensor Networks considering mobile nodes. Random Waypoint Mobility Model is considered as the mobility model in the scenario. The various scenarios are designed and simulated by increasing the number of mobile nodes and varying the speed of the mobile nodes. The performance parameters such as throughput, average end to end delay, average jitter and residual energy for different type of scenarios are determined. The simulation is done by using Qualnet 6.1 simulator.

Keywords: MWSN, Random Waypoint Mobility Model, LAR, Requested Zone, Expected Zone.

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20.

Authors: **H.S. Hota**

Paper Title: **Identification of Breast Cancer Using Ensemble of Support Vector Machine and Decision Tree with Reduced Feature Subset**

Abstract: Breast cancer is very common disease found in woman in which breast masses are increases abnormally .A recent survey in united kingdom proved that breast cancer is not only a problem of young woman but it is also a problem of old age woman those who have crossed the age of sixty or even seventy. An early identification and then prevention with proper medication of breast cancer can save life of human being. A robust and efficient breast cancer identification system is necessary for this purpose. Statistical technique like support vector machine and data mining technique like decision tree are widely used by the researcher since last few years. These techniques proved their ability to efficiently diagnose breast cancer problem. In this research work an ensemble model based on above two techniques are explored with special reference to feature selection. A rank based feature selection technique reduces features one by one based on its rank of breast cancer data ,downloaded from UCI repository site. An ensemble of support vector machine and C5.0 decision tree technique with reduced subset of only five features produced high accuracy of 92.59%.

Keywords: Decision Tree (DT), C5.0, Support Vector Machine (SVM),Feature Selection (FS).

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21.

Authors: **Mahmoud Gaballah, Mohammed El-Bardini**

Paper Title: **Low Cost Transient Free Thyristor Switching Capacitor for Power Factor Correction Panels**

Abstract: The paper discusses the operating principles and control characteristics of a thyristor switching capacitor (TSC) that used to improve the transient response of capacitor switching. Since the capacitor draws too much current from the main supply at the instant of turn-on. In this paper, the TSC is implemented in such a way that need a minimum number of thyristors with low cost logical control circuit which introduces an economical way to replace the contactor based power factor correction panels. The proposed TSC operations verified through experimental results.

Keywords: Capacitor banks, Power factor, Thyristor switching capacitor.

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22.

Authors: **V. Prasath R.Buvanesvari, N. Thilartham, K. Nirosha**

Paper Title: **Image Super Resolution Reconstruction Using Wavelet Transform Method**

Abstract: Image super-resolution (SR) has been extensively studied to solve the problem of limited resolution in imaging devices for decades. This paper addresses the problem of recovering a super-resolved image from a set of warped blurred and decimated versions thereof. Several algorithms have already been proposed for the solution of this general problem. In this paper, we propose the image super-resolution reconstruction using wavelet transform method. By using multi surface fitting the low resolution pixel image is converted to high resolution image. The super resolution image is then formed using interpolation based method. The noise and the blur in the resulting image are reduced using our wavelet transform method.

Keywords: data fusion, multi surface fitting, super resolution, stationary wavelet transform.

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Authors: **Padmini Sahu, Anurag Singh Tomer**

Paper Title: **Dynamic Modelling Of Seven- Link Biped Robot on Matlab/Simulink: Survey**

Abstract: In this paper, we are going to propose an artificial neural network controller design based on radial basis neural network to control level walking of biped robot. The model used for the biped robot simulation consists of 7-links which are connected through revolute joins. The identical legs have hip, knee & ankle of both legs & torso. A PID controller is used on a linear model in state variable form in order to simulate the dynamic of the system in Matlab.

Keywords: Gait cycle, Biped robot, dynamic modelling, neural network

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Authors:	**V.Prasath R.Buvanesvari R.Kalaivani M.Megala**
Paper Title:	**Enhancement of Website Visibility using Search Engine Optimization Techniques**

Abstract: Search engine optimization is often about making small modifications to parts of your website. When viewed individually, these changes might seem like incremental improvements, but when combined with other optimizations, they could have a noticeable impact on your site's user experience and performance in organic search results. The results generated by search engines can be natural (organic or algorithmic) and/or paid search. Here we have discussed different techniques used for achieving better optimization the search will differ with different users. The search will be done according to the keywords given by the users.The ranking functions are typically learned to rank search results based on features of individual documents i.e., point-wise features. This will increase the website visibility and make the user to get the information what they are actually looking for. We can use this technique also in the standalone systems.

Keywords: organic search, search engine optimization, ranking methods, websites

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25.

Authors:	**V.Prasath, R.Buvanesvari, V.Anitha, M.Keerthana**
Paper Title:	**Improving Web Service Selection using Fuzzy Quality of Protection**

Abstract: We aim to solve the selection of secure web services in a global and flexible manner by introducing a Fuzzy logic method. This paper presents a stride model based evaluation of web service security using quality of protection parameters like spoofing, tampering, reputation, information disclosure, denial of service and elevation of privileges. In this paper quality of protection parameterized tasks that are given to fuzzier where the input values for decision making that are converted into the range between 0 and 1 for selection and choice of the most appropriate web service with respect to quality of protection.

Keywords: fuzzy,qualityofprotection,webservicediscovery, web service security

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