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1.

Authors: Tapinder Kaur, Ashish Verma

Paper Title: Structure Extraction from Complex Textures using Gradient based Relative Total Variation

Abstract: It is universal that expressive arrangements are shaped by or seem over textured exteriors. Extracting them under the difficulty of texture patterns, which could be consistent, near-regular, or uneven, is very challenging, but of great real-worldsignificance. This paper presents a review on texture segmentation and analysis of different techniques. The comparisons among available techniques are also drawn in order to find the best suitable one. To overcome the existing problems of texture extraction a new extended relative total variation technique is proposed. The proposed technique has ability to extract textures from complex background images using gradient based methods and median filtering. The proposed method has shown accurate results even in highly noisy images. The comparison has shown that the proposed method is quite significant over the available methods.

Keywords: Dark regions, gradients, texture, texture patterns, texture segmentation.

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2.

Authors: Mahendraperumal Guruvaiah, Keesoo Lee

Paper Title: Utilization of Flue Gas from Coal Burning Power Plant for Microalgae Cultivation for Biofuel Production

Abstract: Microalgae have high photosynthetic efficiency that can fix CO2 from the flue gas directly without any upstream CO2 separation, and along with produce biomass for biofuels application and reduce greenhouse gas emissions. Microalgae studies were conducted in a batch mode experiments at Power plant, Jefferson city, Missouri, USA. The experiments were conducted in different period (May to October, 2011) of time. The genus Scenedesmus sp was isolated from power plant habitat and used for this experiments and then comparative study done by flue gas ponds vs non flue gas treatment ponds. The microalga was cultured with different simulated flue gases containing 1% – 4% (volume fraction) of CO2. The results show that Scenedesmus sp were grown very efficient at 2% CO2 content. The maximal biomass productivity and lipid productivity were obtained when aerating with 2% of CO2. The lipids content ranged from 10 to 18 % of dry mass of biomass. Scenedesmus sp has a great potential for CO2 mitigation, environmental tolerance and biodiesel production.

Keywords: Biomass, CO2 Sequestration, Microalgae, Lipids.

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3.

Authors: **Abdulkadom Alyasiri, Jameel K Abed, Mohannad J Mnati**

Paper Title: **Design and Implementation New Saving Energy System by Using Human Motion Sensor**

Abstract: This work presents the design of a new electronic system to save electrical energy. In this design is to focus on the use of low power digital IR motion sensors to perform human motion to voltage conversion .PIC16F84A microcontroller have been used to control the entire system. Three electrical devices (Televisions, Fan and Lump) was controller by this system. PROTEUS 8 professional software was used for simulating the designed system, and MikroC software from MikroElektronika was used to programing the pic16F84A microcontroller. Results of the system design showed how to saving electrical energy by using human motion sensor and PIC16F84A microcontroller.

Keywords: saving energy, PIC16f84A and human motion sensor.

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4.

Authors: **Yogesh Kumar, Ashish Kumar Khandelwal, Sharda Pratap Shrivas**

Paper Title: **A Study of Integrated Supply Chain Model**

Abstract: The purpose of this paper is to present the relationship between firm integration and supply chain orientation and supporting technology as moderating that relationship. The term can be used to describe either functional management or project management- leading technical professionals who are working in the fields of product development, manufacturing, construction, design engineering, industrial engineering, technology, production, or any other field that employs personnel who perform an engineering function. This paper concludes that trust, serious relationships, and good communication between tour operators and other SC members could lead to more efficiency and effectiveness in tourism business.

Keywords: development, manufacturing, construction, design engineering, industrial engineering, technology,

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5.

Authors: **Nirmala. M, Palanisamy. V**

Paper Title: **An Efficient Framework for Exploring Personal Pattern Mining and Prediction in Mobile Commerce**

Abstract: With the rapid advance of wireless communication technology and the increasing popularity of powerful portable devices, mobile users not only can access worldwide information from anywhere at any time but also use their mobile devices to make business transactions easily, e.g., via digital wallet. Meanwhile, the availability of location acquisition technology, e.g., Global Positioning System (GPS), facilitates easy acquisition of a moving trajectory, which records a user movement history. We propose a novel framework namely, Mobile Commerce Prediction (MCP) framework consists of three major components: 1) Similarity Model (SM) for measuring the

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similarities among stores and items, which are two basic mobile commerce entities 2) Mobile Commerce Pattern Mine (MCPM) algorithm for efficient discovery of mobile users' Personal Mobile Commerce Patterns 3) Mobile Commerce User Behavior Predictor (MCUBP) for prediction of possible mobile user behaviors. We perform an extensive experimental evaluation by simulation and show that our proposals to produce excellent results.

Keywords: Association rule mining, Data mining, Mobile commerce, Pattern mining and prediction.

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Authors:	**Majid S. Naghmash, Hazim Salah Abdulsatar, Tahseen Flaih Hasan**	
Paper Title:	**Reconfigurable Down Sampling Channelizer for SDR Receiver Using FPGA**	

6.

Abstract: This paper presents, the design and implementation of reconfigurable down sampling the IF band frequency to baseband in Software Defined Radio (SDR) receiver. To enhance both the integration and adaptation of multiple communication standards like GSM, CDMA and WCDM systems, the selection of channel in SDR technology require to achieve relaxing on chip at baseband. The wireless and mobile systems classically utilize a channelizer to extract the desired band for more processing in baseband. Down conversion in frequency domain requires less computation and complexity to provide the idea of minimum power consumption as current user demand. In the low power design and efficient FPGA area implementation, the cascaded digital filter structure is required to convene multi standards specifications in wide and narrow band systems. Many type of digital filter has been decomposition to implement this filter as well as a lot of software from Mathworks and Xilinx is used. A number of experiments and investigation are given to estimate the results of FPGA design for filter structure. The nonappearance of error in the design steps shows an important improvements in the filter implementation results to enhance the conventional design.

Keywords: Reconfigurable filter, Down Sampling, SDR Receiver, FPGA

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7.

Authors: **Arjan Fakhraldin Abdullah, Mazin Burhan Adeen, Alya'a Abbas Al-Attar**

Paper Title: **Studying Flexural Behavior of Reinforced Fibrous Self- Compacted Concrete T- Beams Strengthened with CFRP SHEETS**

Abstract: This research Studies the possibility of producing self-compacting concrete (SCC) containing Pozzolanic materials and reinforced with different types of fibers , 11% (by weight of cement) of silica fume were used and two types of fiber (Steel, Nylon) with different volume fraction , also it studies the structural behavior of the self-compacted reinforced T-section beams. The current study includes a practical program considers the effect of adding steel and nylon fibers to structural behavior of T- section self-compacting concrete such as compressive and tensile strength and flexural behavior represent by load-deflection curves, variables that which studied after obtaining the self-compacting was the volumetric ratios of fibers which used (0.2, 0.3 and 0.4) % ratios for steel and nylon and hybrid fiber. Also Rehabilitate the T- beams after failure in bending by strengthened it with carbon fiber strips (CFRP), and find out the effect of external strengthening by CFRP on the flexural resistance of concrete & reinforced concrete beams. The practical results of the current study indicated that when adding steel fiber to the self-compacted concrete it has shown a good effect of the increase in compressive, tensile and flexural strength, also it has effect of reducing deflection, this effect increasing by increase of the volumetric ratio of steel fiber. while adding of nylon fibers lead to a slight increase in compressive strength and this effect decrease by fiber content increasing and the addition of these fibers lead to a small increase in the tensile and bending strength , also adding hybrid fiber in all ratios lead to an improvement in hardened properties of self-compacted concrete .The results of repair by strengthening the beams with carbon sheets indicated that the carbon fibers had a noticeable effect in increasing the ultimate load in all beams and testing results showed that the flexural strength increased between (6.42% - 29.62%) for concrete beams, and between (9%-33%) for rehabilitated damaged concrete beams.

Keywords: Fibers self-compact Concrete, Flexural Strength, CFRP, and Epoxy.

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8.

Authors: **Annu Pandey, Y.K.Bind**

Paper Title: **Effects of Oil Contamination on Geotechnical Properties of Alluvial Soil Naini, Allahabad**

Abstract: Soil contamination by engine oil basically takes place due to spilling from vehicles or discarding of used engine oil in areas near garages or service stations. This contamination causes huge damage to the environment. The hydrocarbons present in the oil influences the quality and physical properties of oil contaminated soil. These hydrocarbons infiltrate into the soil through pore spaces and collect at the top of the ground level. A fraction of this hydrocarbon gets trapped and clog within pore space, which is cumbersome to remove and costly to clean .Some major tasks need to be performed for remediation and reclamation of contaminated area .Also, in connection with the clean-up works, and for any possible application of contaminated soil, a knowledge of the geotechnical properties and behavior of contaminated soils is required. This study aimed to investigate the compaction characteristics of engine oil-contaminated alluvial soil. The amount of oil added to soil was varied at 0%,4%,8% and 12% of the dried weight of samples. Results showed that the oil contamination decreased the liquid limit , plastic limit and shrinkage limits. The compaction characteristics were also affected to a great extent. The MDD value was found to be decreasing as a result of increasing amount of added engine oil into the soil. A similar behavior was observed with the value of OMC with increasing engine oil content, which means that the addition of oil has adverse effects to the geotechnical properties of the studied soil. Contaminated residual soils might be used for geotechnical purposes and these results will be used for geotechnical purposes and will benefit engineers or researchers in recycling or re-using of contaminated soils

Keywords: Hydrocarbons, oil contaminated soil, petroleum products, remediation, reclamation.

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9.

Authors:	**Haque Nawaz, Himat Ali**
Paper Title:	**Gear Measurement Using Image Processing in Matlab**

Abstract: In this paper gear Measurement has been carried out by focusing two features of gear image object. The problems are to measure the gear features of gear image object, in the sense the measurement of the Area of the gear image object and as well the teeth of the gear will be counted. We have used Matlab tool and development code which overcome these problems and measured the area as well as teeth of the gear image object counted. To accomplish this task we have measured five different gear image objects area and counted the teeth by using image processing. The experimental results and statistics have been shown in this paper.

Keywords: Gear, Measurement, Image Processing

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Authors:	**M. Shahjahan, N. A. Ahmed, S. N. Rahman, S. Islam, N. Khatun, M. S. Hossain**
Paper Title:	**Structural and Electrical Characterization of Li-Zn Ferrites**

Abstract: Four ferrite samples of Li0.5xFe0.5xZn1-xFe2O4, where x= 0.6, 0.7, 0.8, 0.9 were prepared by conventional ceramic method. The dc electrical resistivity as a function of temperature has been studied and found to decrease with the increase in temperature. The Curie temperature (Tc) has been found to increase as the Zn content decreases from x=0.6 to x=0.8. But for the sample where x=0.9 the Curie temperature is less than that of the sample where x=0.8. The ac electrical conductivity (□ ac), dielectric constant (□), the dielectric loss tangent (tan□) and quality control factor (Q-factor) as a function of frequency have also been studied. The experimental results indicate that for the first three samples the ac electrical conductivity (□ ac) decreases with the increase in frequency up to 200 KHz and afterwards it increases with the increase in frequency. But for the sample where x=0.9 the ac conductivity (□ ac) increases with the increase in frequency. It has been found that with the increase in frequency the dielectric constant (□) and dielectric loss tangent (tan□) decrease while the quality factor (Q-factor) and ac conductivity increases.

Keywords: Conventional Ceramic, Electrical Properties, Lithium Zinc, Surface Morphology.

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Authors: **R. S. Pawar, S. H. Sawant**

Paper Title: **An Overview of Vibration Analysis of Cracked Cantilever Beam with Non-Linear Parameters and Harmonic Excitations**

Abstract: A beam is an elongated member, usually slender, intended to resist lateral loads by bending. These beam-like structures are typically subjected to dynamic loads. Therefore, the vibration of beams is of particular interest to the engineer. This paper tries to focuses in the study of the vibration analysis of cracked cantilever beam subjected to free and harmonic excitation at the base. The objective of the study is to identify the effect of non-linearities namely material, geometric, and damping on the natural frequency and mode shapes of cracked cantilever beam by theoretical, numerical and experimental methods.

Keywords: Cracked simply supported beam, Cracked Cantilever Beam with Non-linear Parameters and Harmonic Excitation, Free Vibration and Elastic Buckling beams, Modal Analysis of beams with different materials, Rotating Cantilever Beam, Non-linearities in Cracked cantilever beam, Vibrations of axially moving beam.

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Authors: **Shubham Srivastava, Pratibha Singh**

Paper Title: **Real-Time Object Tracking Using Colour Feature**

Abstract: Video Tracking is the process of locating a moving object over time using a camera. The objective of video tracking is to associate target objects in consecutive video frames. The association can be especially difficult when the objects are moving fast relative to the frame rate. Another situation that increases the complexity of the problem is when the tracked object changes orientation over time. For these situations video tracking systems usually employ a motion model which describes how the image of the target might change for different possible motions of the object. In this paper an algorithm is proposed to track the real time moving objects in different frames of a video.

Keywords: Shape Features, Object tracking, Feature Extraction.

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Authors: **Alnuami W., Buthainah A., Etti C. J., Jassim L. I., Gomes G. A. C.**

Paper Title: **Evaluation of Different Materials for Biodiesel Production**

Abstract: The challenges of the dwindling supply of fossil fuels and environmental pollutions caused by them are of growing concerns in the world today. Theincrease in world population has resulted in higher consumption of fossil fuel leading to a reduction in petroleum reserves,which are finite and found only in a few regions of the world. Hence, it becomes necessary to look for alternative fuel that is cheap and can be produced from readily available materials. Biodiesel is a renewable energy derived from vegetable oil and animal fats by transesterificationwith methanol and is widely adopted in many countries around the world as an alternative form of energy resource. It has been found to be a very good substitute for petroleum diesel with several advantages such as lower toxicity, higher flash and fire points than the petroleum diesel meaning that they are less flammable hence they are safer to handle, better biodegradable and higher lubricity than the petroleum diesel which means that an engine run on biodiesel will be less prone to wear and will last longer. The high cost of biodiesel is a major setback to its commercialization. And is mainly due to the high cost of raw materialsit's the production. Therefore, identifying the right and readily available material that will give good biodiesel yield with good fuel properties and performance dynamic efficiency is very important. This Paperevaluates the different materials that are suitable for biodiesel production as an alternative source of fuel.

Keywords: Alternative fuel, Biodiesel, Petroleum fuel, Transesterification, Triglycerides

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14.	**Authors:**	**Chitra Sree. P, Ravi Shankar.J**
	Paper Title:	**Implementation of Digital Cross Connect For Simplex Mode of Communication**

Abstract: DCS available in the market is expensive and bulky and not scalable and reprogrammable. We have simulated various DCS modes, mainly concentrates on developing indigenous SOC architecture that is reprogrammable, scalable and upgradable. The various switching modes of proposed DCS are round robin, priority and request and acknowledge , The design is simulated using Verilog Hardware Description Language (HDL) in Xilinx ISE9.1i version software and can be implemented on Xilinx Spartan2 family based FPGA board.

Keywords: Telecommunication, Switching, DCS, simplex mode, round robin, priority, request and acknowledge

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15.	**Authors:**	**Vikram J. Patel, Hemraj R. Kumavat**
	Paper Title:	**Modelling of Speed- Flow Equations on Four- Lane National Highway-8**

Abstract: The precise determination of relationship between speed and flow is essential for arriving at the capacity of a road. The Principal objective of the present study is to evaluate speed-flow relationships on National Highway-8 for different types of vehicles by developing separate speed-flow equations on NH-8.

Keywords: Capacity, Flow, Free speed, Spot speed, Lane width, Speed-Flow equations.

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16.	**Authors:**	**Hemraj R. Kumavat, Vikram J. Patel**
	Paper Title:	**Factors Influencing the Strength Relationship of Concrete Cube and Standard Cylinder**

Abstract: This paper report an experimental study carried out to investigate to influence of addition of different size aggregate and w/c ratio on the mechanical properties of controlled concrete. The standard size cube and cylinder specimens are prepared and cured for period of 7 and 28 days. At the end of each curing period the compressive strength of each specimen are determined. The result indicate that the cement content in mix are increasing, the ratio of cylinder to cube strength is in case of 10mm aggregate than the 20mm aggregate are also increasing. The results also show there is no unique relationship between the strength of cube and strength of cylinder.

Keywords: Aggregate size, Compressive strength, Cube and Cylinder specimen, w/c ratio,

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	Authors:	**Yashveer Singh, Kriti Arya, A K Malik**
	Paper Title:	**Inventory Control with Soft Computing Techniques**

Abstract: The objective of this paper is the findings a systematic review of existing research papers concern with the application of soft computing techniques to inventory management. In business organization, inventory management is one of the major core competencies to compete in the global market place. The most important purpose served by the stores is to provide the uninterrupted service to the manufacturing divisions. The purpose of inventory in any business is to decrease the cost of set up and shortage cost. Whenever demands of customers are not fulfilled then good-will of the customers may be lost and the cancellations of orders i.e., result may be in the lost of business.

Keywords: Inventory Control, Soft Computing, Fuzzy Logic, Genetic Algorithm.

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	Authors:	**Buthainah A., Dayang Radiah A. B., Alnuami W., Ethar Y. Salih, Mohammed. A. Jawad**
	Paper Title:	**Gasoline Diffusivity of Polypropylene-Polycarbonate Composites**

18.

Abstract: This manuscript explores the effect of polypropylene-polycarbonate composite (PP-PC) on gasoline absorption. Composites were prepared from PP-PC of different ratios with and without carbon black as a stabilizer. Further, the effect of aging gasoline in the presence of carbon black for a period of two months was studied. A single screw extruder was used to produce these composites and form them into 2mm thick sheets. A hydraulic compressor

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was then used to produce a 4mm sheet. Absorption test was carried out in gasoline at different immersion times and different blends. The results showed that the polycarbonate performance was improved upon addition of polypropylene. The results of absorption show that it obey Fick's second law of diffusion and after the addition of carbon black the absorption decrease. Further, a polymer composite comprised of PP/PC/carbon black at a ratio of 30/70/1 % (V/V/V %) performs best as suitable composite for the manufacture of fuel tanks.

Keywords: diffusion, polymer, absorption, composites

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19.

Authors:	**Radha Pandey, Arpan Herbert, Annu Pandey**
Paper Title:	**Soil Decontamination by Soil Washing Technique Using Surfactant**

Abstract: Soil contamination is mainly due to uncontrolled release of petroleum products like underground leakage from storage tanks and above ground oil spills. Hydrocarbons not only affect the quality of soil but also changes its geotechnical properties. This paper aims to investigate the effect of geotechnical properties of soil contaminated with engine oil and evaluate decontamination by soil washing technique using surfactant Brij-35. The geotechnical properties of contaminated soil samples by different proportion of engine oil i.e 2%, 4%, 6% & 8% were determined. Then contaminated samples have been decontaminated by soil washing technique using surfactant and geotechnical properties were determined and compared with contaminated & virgin soil samples. Results shows that Percentage restoration of contaminated soil is same as virgin soil , maximum restoration was found at 4%. Higher percentage of oil lesser will be restoration capacity.

Keywords: Brij-35, contamination, decontamination, soil washing.

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20.

Authors:	**Aslam P. Memon, M. Aslam Uqaili, Zubair A. Memon, Naresh K. Tanwani**
Paper Title:	**Time-Frequency and Artificial Neural Network Applications and Analysis for Electrical System**

Power Quality Disturbances in MATLAB

Abstract: In recent years due to increasing utilization of nonlinear loads and power electronic equipment, the issue of EPQD (Electrical power quality disturbances) has become the most important apprehension for suppliers and the users of electric power. It is imperative to detect the sources and causes of electrical power quality disturbances in order to improve EPQ problems. Traditional signal processing techniques permit mapping signals from time to frequency domains by decomposing the signals into several frequency components. Due to this transformation time information is lost. EPQ disturbances vary in the wide range of time and frequency, which means these traditional techniques are not suitable for EPQ problems. This problem can be solved with the application of WT (Wavelet transform) and feedforward neural networks as classifier. Statistical features extraction data is obtained using DWT (discrete wavelet transformation) and MRDA (multiresolution decomposition analysis) utilizing MATLAB/Simulink and Wavelet toolbox. This minimum feature vector data is used for training FFNN as input. Proposed FFNN classifier reduces training. The results obtained show the promising applicability and suitability of WT analysis with neural network for improved and an efficient methodology for automatic diagnosis of EPQ problems.

Keywords: Detection and classification, discrete wavelet transform, Electrical power quality disturbances, feedforward neural network, wavelet transforms.

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