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1.

Authors: Mohamed DYABI, Abdelmajid HAJAMI, Hakim ALLALI

Paper Title: CATP: An Enhanced MANETs Clustering Algorithm Based on Nodes Trusts and Performances

Abstract: A mobile ad hoc network (MANET) is a wireless network without the support of any fixed infrastructure. Security is one of the main challenges in ad hoc network due to dynamic topology and mobility of nodes. Organizing mobile nodes into manageable clusters can limit the amount of secure routing information. Under a cluster structure, mobile nodes are managed by nodes called cluster heads. The cluster head role is resource consuming since it's always switched on and is responsible for the long-range transmission, for example to send a bit over 10 or 100 m distance, Manet's nodes consume resources that can perform thousands to millions of arithmetic operations. In this work, we present a clustering algorithm based on node trust and performances called (CATP) , where the clusters are formed around the trustworthy , the densest and the most powerful nodes.

Keywords: Adhoc, Clustering, OLSR, trust.

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1-9

2.

Authors: Mojtaba Atabakhsh, Mahmoud Ebadian, Majidreza Naseh

Paper Title: Transient Stability Enhancement of Wind Farms using Flexible AC Transmission Technology (Comparison of SVC and STATCOM)

Abstract: Uncontrollable nature of wind power causes using wind turbine induction generators. From the viewpoint of stability, induction generators consume reactive power similar to the induction motor, and it has a negative impact on short-term voltage stability and system voltage profile. This main issue of wind turbines that equipped with doubly fed induction generators (DFIGs) becomes bold in the grid faults. In this thesis, a new solution for uninterrupted operation of wind turbine driving a DFIG has been proposed during fault condition in the grid. A fault current limiter (FCL) is placed in series with the rotor circuit. During fault condition FCL enters a huge solenoid in the rotor circuit to inhabit increasing of current in the rotor circuit. When the fault is cleared the FCL bypasses the solenoid. A static synchronous compensator (STATCOM) and a static VAR compensator (SVC) have been applied for supplying required reactive power in faults and steady states. Capability and modeling accuracy of the proposed method confirmed with simulating a sample power system in MATLAB/Simulink software.

Keywords: FACTS, Wind power, Transient stability, Doubly fed induction generators, Power system.

10-13

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3.

Authors:	**Aassia Mohammad Ali Jassim Al-a'Assam**
Paper Title:	**Design and Improvement the Performance of LTE Transceiver based OFDM Wavelet Signals and Turbo Coder**

Abstract: LTE, a term of Long Term Evolution, marketed as 4G LTE, is a standard for wireless communication of high-speed data for mobile phones and data terminals. It is based on the GSM/EDGE and UMTS/HSPA network technologies, increasing the capacity and speed using a different radio interface together with core network improvements. In this paper a new technique based on the Discrete Wavelet Transform (DWT) for implementing the OFDM in LTE is proposed. The proposed scheme is tested in different SUI channels. The results explain that the proposed system overcome the conventional method based on the Fast Fourier transform (FFT) and give lower BER compared with the conventional method based on FFT.

Keywords: Turbo Coder, LTE, 3GPP, OFDM, FFT, DWT, SUI.

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14-17

4.

Authors:	**Makamure C, Chinofunga D, Usai T, Mutonhodza B**

	Paper Title:	**Determining the Efficacy of Protocols Employed in Replacement /Artificial Feeding using Commercial Infant Formula in, Harare Zimbabwe**	
	Abstract: The study determined the efficacy of protocols employed in replacement/artificial feeding using commercial infant formula. The study was carried out in the different suburban locations of Harare, Zimbabwe. A sample size of 20 mothers/caregivers giving commercial infant formula to their babies at between 0-6 months was targeted; convenience and snowball sampling techniques were used to identify the participants. Interviews using a structured questionnaire were conducted and complemented by direct observation of the participants as they prepared the infant formula. The results were tallied against a checklist of recommended practices and label instructions. The results established that there were short falls in the preparation procedures as employed by the caregivers, mainly the mixing order of powder and water, temperature of the water for reconstitution and handling of left over formula after feed; 50 percent of caregivers were not adhering to the label instructions as given by the manufacturers and to recommendations proposed by World Health Organisation. Poor hand washing was indicative in 80 percent of cases, bottle feeding was predominant (n = 16) compared to cup feeding (n = 4) and the population practicing artificial feeding were mostly the young (90%), married (80%), educated (100%) and working group (90%). The researcher recommends that health providers strengthen efforts to ensure that adequate information /counselling and consistent advice of optimal benefit to the infant-mother pair be given and that the Ministry of Health and Child Welfare , Nutrition unit must strictly monitor the activities and the information given out by infant formula manufacturers as stipulated by the International Code of Marketing of Breastmilk Substitutes and also giving them the responsibility of following up on the appropriate use of their products.	**18-22**
	Keywords: commercial infant formula, infants, caregivers.		
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5.	**Authors:**	**Aamir Eftikhar Bondre, Meenakshi Ananth, Nishu Nandita, Sriragh Karat, Sadashiva V Chakrasali**	
	Paper Title:	**Comparative Analysis of Different Windowing Techniques in MFCC Speaker Recognition**	
	Abstract: Speaker recognition is the process of automatically recognising the speaker on the basis of individual information included in speech waves. The objective of automatic speaker recognition is to extract, characterize and recognize the information about speaker identity. Speaker recognition technology can be used in many services such as voice dialling, banking by telephone, telephone shopping, database access services, information services, voice mail, security control for confidential information areas, and remote access to computers. Feature extraction is an important process in speaker recognition. In this paper Mel Frequency Cepstrum Coefficients method is used in order to design a text dependent speaker recognition system. Different types of windowing methods are used during feature extraction. In this paper, a comparative analysis of different windowing techniques is done in order to determine the most effective windowing technique for MFCC speaker recognition.	**23-27**
	Keywords: Speaker, MFCC, Mel, Frequency, Cepstrum, Coefficients.		
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6.

Authors: **Rajni B. Kinalkar, M.S. Harne**

Paper Title: **A Review on Various Cooling System Employed in Grinding**

Abstract: Grinding is most commonly used as a finishing process to provide good surface, dimensional and geometrical quality. As thermal damage is one of the main limitations of grinding process. Cooling plays a crucial role in grinding to avoid thermal damage to the workpiece surface. Cooling and lubrication are especially important to ensure workpiece quality in grinding, because of high friction and intense heat generation involved in the process. This paper focused on Different approaches of cooling system as per the surface quality requirement for different types of material. Also it discusses the recent trends in cooling system.

Keywords: Grinding, Cooling system, Cryo grinding, Slotted grinding wheel, MQL, Hybrid MQL.

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28-35

7.

Authors: **Sabna Sharma, Ratika Pradhan**

Paper Title: **Classification Methods for Land use and Land Cover Pattern Analysis**

Abstract: The importance of mapping of land use and land cover is highlighted in this paper. The paper discusses image classification as one way of mapping land use and land cover. Image classification is the process of sorting all the pixels into in an image into a finite number of individual classes .Image classification is further classified into supervised and unsupervised classification. This paper also highlights the numerous ways for image classification.

Keywords: Image classification, Mapping, Supervised, Unsupervised..

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36-38

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Authors: Ronak Malpani, Sachith Kumar Jegarkal, Rashmi Shepur, Ravi Kiran H. N, Veena Kumara Adi

Paper Title: Effect of Marble Sludge Powder and Quarry Rock Dust as Partial Replacement for Fine Aggregates on Properties of Concrete

Abstract: Concrete sustainability involves continuously choosing low impact building materials. Use of alternate aggregate materials has greater potential because 75% of concrete is composed of aggregates. The experimental study has been carried out to investigate the suitability of marble sludge powder and quarry rock dust as partial replacements for fine aggregates. This paper reports the properties of concrete mixtures where in a portion of sand is replaced by marble sludge powder and quarry rock dust and mixtures of both. During this experiment, the properties of concrete were studied for eight series of concrete mixtures by replacing the portion of fine aggregates by marble sludge and quarry rock dust and mixtures of both. The chemical composition and some of the mechanical properties of marble sludge powder and quarry rock dust are reported with that of sand. The effect of quarry rock dust and marble sludge powder on the compressive strength and split tensile strength were recorded at the curing age of 7 and 28 days. All the data are tabulated and compared. It was observed that particular proportions of marble sludge powder and quarry rock dust displayed enhancing effect on the compressive strength.

Keywords: marble sludge powder, quarry rock dust, workability, compressive strength, split strength.

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39-42

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Authors: Poonam M. Baikar

Paper Title: Design of PID Controller based Information Collecting Robot in Agricultural Field

Abstract: This project presents a design of a PID algorithm for driving agricultural robot motors. This approach

43-47

has been proved with MATLAB simulation results. This kind of position control can be improved using adaptive algorithm. This project also described implementation of PID using PWM method. The robot prototype can move rapidly with the controller. Based on the study, the accuracy of the moving velocity of the robot can be further improved, such as the use of artificial neural networks and genetic algorithms for precise speed control. The results obtained from the PID simulation in MATLAB-Simulink shows that PID algorithm gives considerable precision in positioning compared to conventional motor control algorithms.

Keywords: PID, PWM, MATLAB

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10.	**Authors:**	**Niharika Mehta, Romika Choudhary**
	Paper Title:	**Direction of Arrival Estimation on the Performance of WCMSR Technique**

Abstract: This paper presents direction-of-arrival (DOA) estimation of wideband signals, and wideband covariance matrix sparse representation (W-CMSR) method is proposed. In W-CMSR, covariance matrix is taken such that the lower left triangular elements are aligned to form a new measurement vector. In W-CMSR technique we use constraint of sparsity, sparse representations are those representations that account for most or all information of a signal with a linear combination of a small number of elementary signals called atoms. Often the atoms are chosen from a so called over-complete dictionary. It means that given a signal firstly we form the dictionary which contains the atoms that represent the signal and then after that we find the smallest set of atoms from the dictionary to represent the signal. No prior information of the incident signal is required in W-CMSR, and no decomposition is done. Half-wavelength spacing restriction can be changed from the highest to the lowest frequency of the incident wideband signals.

Keywords: Direction-of-arrival (DOA) estimation, over complete representation, sparse representation, wideband signal, source localization.

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48-51

11.	**Authors:**	**Boussaa Mohamed, Bennis Abdelattif, Atibi Mohamed**
	Paper Title:	**Comparison Between Two Hardware Implementations of a Formal Neuron on FPGA Platform**

Abstract: The formal neuron is equivalent to a simple processor that performs a series of mathematical operations more or less complex on real data. The chosen representation to encode these data is the 32 bits floating point representation; this makes possible to achieve satisfactory precision in calculation. This paper presents a hardware comparison between two formal neurons, one is associated with the sigmoid activation function and the other to the gaussian activation function. This comparison is designed firstly to compare the hardware results obtained respectively from these two implementations with software results, and secondly, to make comparison between the two hardware implementations in terms of the consumed material resources and execution time. These neurons are implemented by using a number of specific blocks called megafunction, on an FPGA platform of Altera DE2-70 which offers several advantages, including flexibility, efficiency and speed.

52-56

Keywords: formal neuron, FPGA, hardware resources, execution time, mega function.

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Authors: **Vishvender Singh, Gunjan Agarwal, Mukesh Sharma**

Paper Title: **Design and Analysis of Low Offset High Speed Low Power 1Kb SRAM Memory**

Abstract: This paper we present the design and analysis of 1Kb Static Random Access Memory (SRAM) at 180nm technology and main focusing on optimizing power consumption and delay factors are improved by varying the size of transistor used in Sense Amplifier. The present 1kb SRAM can be divided into main three block sense amplifier, basic cell and precharged circuit. Present 1kb SRAM design input decoupled sense amplifier. Presented Sense amplifier CMOS schematic is design tanner EDA S-edit, Simulate T-spice and 0.18µm technology.

Keywords: Sense amplifier, Driver transistor, Access transistor, load transistor.

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57-61