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Paper Title: System Efficiency Using PWM Switching Strategies

Abstract: Pulse Width Modulation (PWM) is the technique of using switching devices to produce the effect of a continuously varying analogue signal; this PWM conversion generally has very high electrical efficiency. In controlling either a three-phase synchronous motor or a three-phase induction motor it is desirable to create three perfectly sinusoidal current waveforms in the motor windings, with relative phase displacements of 120°. The production of sinewave power via a linear amplifier system would have low efficiency, at best 64%. If instead of the linear circuitry, fast electronic switching devices are used, and then the efficiency can be greater than 95%, depending on the characteristics of the semiconductor power switching.

Keywords: fast electronic switching devices are used, and then the efficiency can be greater than 95%

References:

Authors: Junaid Maste, P. J. Salunke, N. G. Gore

Paper Title: Dynamic Analysis of Laterally Loaded Piles (Effect of Spacing & Diameters)

Abstract: In this study the finite element model (FEM) analysis of group of piles in cohesionless soil with the diameter from 0.5m to 2m and spacing between the piles varied from 2D to 3D by means of the FB-multipier software. Hence by developing a finite element model soil structure interaction study is carried out considering nonlinear soil behavior in time domain analysis with the help of Newmark’s beta method.

Keywords: Laterally loaded piles, Dynamic analysis, p-y curves, Newmark’s beta method, FB-multipier

References:
5. K. Rajagopal et al., “Influence of combined vertical and lateral loading on the lateral response of piles,” International Association for Computer Methods and Advances in Geomechanics, October(2008),pp.3272-3282

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Paper Title: Parametric Optimization of Surface Roughness in Wire Electric Discharge Machining (WEDM) using Taguchi Method

Abstract: Wire electrical discharge machining (WEDM) is widely used in machining of conductive materials when precision is of primary significance. Wire-cut electrical discharge machining of AISI D3 tool steel has been considered in the present work. Experimentation has been completed by using Taguchi’s L9orthogonal array with different levels of input parameters. Optimal combination of parameters was obtained by this technique. The Taguchi technique was used for design of experiment so that with minimum number of experiments, the complete problem can be solved as compared to full factorial design. Experimental results make obvious that the machining model is proper and the Taguchi’s method satisfies the practical requirements. The results obtained are analyzed for the
selection of an optimal combination of WEDM parameters for proper machining of AISI D3 tool steel to achieve better surface finish. Different analysis was made on the data obtained from the experiments.

**Keywords:** ANOVA, D3 tool steel, Design of experiments, Surface roughness, Taguchi method, Wire electrical discharge machining (WEDM).

**References:**

**Authors:** Bhavin Mehta, Milind Soni, Kandarp Changelo

**Paper Title:** Review of Parametric Investigation of Cryogenic Heat Pipe

**Abstract:** with the advancement in cryogenics, applications like optical sensors, electronic circuitry are devised to operate at very low temperature and thereby efficient heat transfer devices are required to transfer heat through a very low temperature gradient. In such cases even high conducting materials, like copper fail to transfer heat at the required levels as the temperature gradient is not sufficient. Cryogenic heat pipes stand out as a prominent heat transfer device in such low temperature gradient heat transfer without any external power. Heat pipe consists of basic three components, like container, working fluid and wick structure. The various working fluids which can be used in transfer device in such low temperature gradient. In such cases even high conducting materials, like copper fail to transfer heat at the.

**Keywords:** Heat Pipe, Cryogenics, Working fluid, Wick structure.

**References:**
5. Keywords: Optimization, Particle Swarm Optimization (PSO), Genetic Algorithm (GA), Differential Evolution (DE), Biogeographic – Based Optimization (BBO).

References:

Authors: Mohammed Jassim

Paper Title: Design of High Performance Middleware for Dynamic Peer-To-Peer Networks

Abstract: This paper deals with a specially designed middleware (P2P Messaging System) that release the advantages of peer-to-peer networks to a broad spectrum of applications. The goal of this paper is to design a middleware for p2p networks that focuses on high-performance group communication based on a publish/subscribe model and its performance is compared with the JXTA technology. The P2P Messaging System considers the heterogeneous and dynamic character of peer-to-peer networks by an augmented topology and its supporting features. This paper gives a solution for an efficient group communication that is established by creating an Overlay networks to overcome topological limitations, implementing the Multi-ring topology to provide scalability, heterogeneity of Peers and decentralization, creation of Dual mode links to allow multiple message sources and to avoid message collisions and creation of Backup links to increase robustness.

Keywords: Peer-to-Peer, Domain Name Server, World Wide Web, Overlay networks

References:

Authors: Neha Sobti, Ketki Arora

Paper Title: Implementation of Data Mining Decision Tree Algorithms on Mobile Computing Environment

Abstract: The idea of complex activity for characterizing the continuously changing complex behavior patterns of mobile users. For the purpose of data management, a complex activity is modeled as a sequence of location movement, service requests, the co-occurrence of location and service, or the interleaving of all above. An activity may be composed of sub activities. We, therefore, propose new methods for complex activity mining, incremental maintenance, online detection and proactive data management based on user activities. In particular, we devise
prefetching and pushing techniques with cost-sensitive control to facilitate predictive data allocation. Preliminary implementation and simulation results demonstrate that the proposed framework and techniques can significantly increase local availability, conserve execution cost, reduce response time, and improve cache utilization. Different activities may exhibit dependencies that affect user behaviors. We argue that the complex activity concept provides a more precise, rich, and detailed description of user behavioral patterns which are invaluable for data management in mobile environments. Proper exploration of user activities has the potential of providing much higher quality and personalized services to individual user at the right place on the right time. With the help of data mining algorithms, we will try to reduce execution time, find correctly classified instance, reduce error rate and improve accuracy.

Keywords: ID3, DTNA, Mobile environment, data mining algorithms

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5. Shady Shethata, Member, IEEE, Fakhri Karray, Senior Member, IEEE, and Mohamed S. Kamel, Fellow, IEEE, “An Efficient Concept-Based Mining Model for Enhancing Text Clustering”, IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING, VOL. 22, NO. 10, OCTOBER 2009.
8. Ji Dan, QuiJianlin, “A Synthesized Data Mining Algorithm Based on Clustering and Decision Tree”, 2010 10th IEEE International Conference on Computer and Information Technology (CIT 2010).

8.
Optimal Power Flow in the Presence of Generalized Interline Power Flow Controller

Abstract: In this paper a novel non-linear optimization problem is formulated to minimize the generation fuel cost and transmission power losses in the presence of generalized interline power flow controller (GIPFC). This paper presents a methodology to optimally allocate the device in a give power system by minimizing the system severity system buses and total transmission line power flows in order to maximize the system security. The formulated objectives are optimized individually while satisfying equality, in-equality, practical and device operational constraints. A new optimization method, based on cuckoo search algorithm and genetic algorithm cross over operations is proposed to test the effectiveness on IEEE-14 bus system, and the detailed analysis is carried out.

Keywords: Optimal power flow, Generalized interline power flow controller, Power injection model, Practical constraints, HC3A

References:

Authors: M. Balasubba Reddy, Y.P. Obulesh, S.Sivanaga Raju, Venkata Suresh
Abstract: This paper specifies a practical model of Pulse Detection and Electric Metering System based on the Radio Frequency (RF). The supporting device transmitter works on 98.5 MHz operating frequency and 200.5 MHz carrier frequency and receiver works on same. Project works within the range of 50 meters. This Radio Frequency (RF) based Pulse Detection and Electric Metering System is used for clear and accurate billing based on actual consumption rather than on an estimate based on previous consumption.

Keywords: Automatic Meter Reading, Digital Power Meter, Radio Frequency, Short Messaging System.

References:
8. Liting Cao, Jingwen Tian and Dahang Zhang, “Networked Remote Meter-Reading System Based on Wireless Communication Technology” in International Conference on Information Acquisition, 2006 IEEE.
Abstract: The design of a 2.4-GHz CMOS Class E cascode power amplifier (PA) for GSM applications in TSMC 0.18-μm CMOS technology is presented in this paper. Proposed Class E cascode PA topology is a single-stage topology in order to minimize the device stress problem. A parallel capacitor is connected across the transistors for efficiency enrichment also for dominating the effect of parasitic capacitances at the drain node. The simulation results point to that the PA delivers 12 dBm output power with 43.6% and 46.6% of power added efficiency (PAE) and drain efficiency (DE) respectively with 2.5-Volt power supply into a 50-Ω load.

Keywords: Class E, CMOS power amplifier, power added efficiency, switching amplifier

References:

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32. “Optimized class –E rf power amplifier design in bulk cmos”, thesis by tao wang, university of Texas.
Cyclical complexity, Lines of Code have been calculated and effectively used for predicting faults. Techniques like statistical methods, data mining, machine learning, and mixed algorithms, which were based on software metrics associated with the software, have also been used to predict software defects. Many works have been carried out in the prediction of faults and fault-proneness of software systems using varied techniques. In this paper, an enhanced Multilayer Perceptron Neural Network based machine learning technique is explored and a comparative analysis is performed for the modeling of fault-proneness prediction in software systems. The data set of software metrics used for this research is acquired from NASA’s Metrics Data Program (MDP).

Keywords: Faults, Fault-proneness, Software Metrics, Software Defect Prediction, Multilayer Perceptron Neural Network.

References:
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Authors: Sharad D. Pawar, Abhay Utpat
Paper Title: Analysis of Composite Laminate for Maximum Stiffness

Abstract: The purpose of this study is to develop optimization procedure to maximize the stiffness and minimize the weight of composite laminate subjected to in-plane loading. The design variables for optimization problem are fiber orientation angles, thickness of lamina and number of laminas. Maximum stress failure criteria are used to determine whether load bearing capacity is exceeded for a configuration generated during optimization process. In a recent year, the application of Fiber reinforced composite material has increased with increasing need of low weight, high strength, high stiffness etc. in aerospace industry, automobile industry, sporting equipment, civil industry etc. In the case of Fiber Reinforcement Plastic composite structural design, the requirements of certain application can be achieved not only by sizing the cross sectional areas and thickness of components but by changing the material system design i.e. optimizing the material system itself such as fiber orientation angle, ply thickness, stacking sequence etc. The optimization techniques are being used to assist the designer in finding an optimized solution. Carefully designed individual composite parts at present, are about 20-30% lighter than their conventional metal parts.

Keywords: Composite Material, PEA, Stiffness

References:
Abstract: The objective of this study is to investigate the appropriate optimization method to find minimum weight and the minimum cost of a Railway PSC slabs. In view of achieving this objective it is decided to develop a computer code in MATLAB7. After validating this computer code by comparing the results with analytical results, it is planned to carry out the economical and safe design of PSC slab. For the minimum weight and cost design of the PSC slab unit the following design variables are chosen: 1-Depth of PSC slab unit at center, 2-Depth of PSC slab unit at end, 3-Eccentricity of prestressing cable at center, & 4-Total prestressing force.

Keywords: Prestressed concrete slab, Railway bridges, Structural optimization, prestressing force, cost and weight optimisation.

References:
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15. Indian Railway Standard: Code of practice for Plain, Reinforced and Prestressed concrete for General Bidge construction (Concrete Bridge code)
summarization’, Information Science, pp. 78-95.

Authors: 
Trupti.Thite, Sharada.C.Sajjan

Paper Title: Palmprint Texture Analysis using 1D Log-Gabor Filter

Abstract: Biometrics is the study of automated methods for recognizing a person based on his physical or behavioral characteristic. Biometric systems can be divided into two categories- identification systems and verification systems. Identification systems tell “who you are?” and verification system tell “are you the one who you claim to be?” Security has become a paramount concern in today’s arena. Hence palmprint identification plays a very significant role to address issues of authentication. This involves image acquisition, preprocessing, feature extraction, and pattern matching. Here 1D Log-Gabor filter is used for texture analysis and feature extraction. Support Vector Machine (SVM) classifier is used in this project for pattern matching as against conventional hamming distance. By the incorporation of this SVM classifier the performance of the whole application has significantly increased duly yielding concise accurate results.

Keywords: CCD, SVM

References:

Authors: 
Dipika Gadiyie, Gopichand Khandale, Rahul Nawkhare

Paper Title: System for Diagnosis of Diabetic Retinopathy using Neural Network

Abstract: The main cause of blindness for the working age population in western countries is Diabetic Retinopathy - a complication of diabetes mellitus - is a severe and wide- spread eye disease. Digital color fundus images are becoming increasingly important for the diagnosis of Diabetic Retinopathy. In order to facilitate and improve diagnosis in different ways, this fact opens the possibility of applying image processing techniques. An algorithm able to automatically detect the microaneurysms in fundus image captured is a necessary preprocessing step for a correct diagnosis as microaneurysms are earliest sign of DR. The key for low cost widespread screening is a system usable by operators with little training. Some methods that address this problem can be found in the literature but they have some drawbacks like accuracy or speed. The aim of this thesis is to develop and test a new method for detecting the microaneurysms in retina images. To do so preprocessing, gray level 2D feature based vessel extraction is done using neural network by using extra neurons/ which is evaluated on DRIVE database which is superior than
rule based methods. Morphological opening and image enhancement are performed to identify microaneurysms in an image. The complete algorithm is developed by using a MATLAB implementation and the diagnosis in an image can be estimated with the better accuracy and in shorter time than previous techniques.

Keywords: Contrast normalization, fundus, microaneurysms, retina, pixel classification, retina.

References:

Authors: Umang Sardesai, Aakash Makwana, Sagar Haria

Paper Title: Review Mining: A New Approach using Modified NLP

Abstract: The Web has become an excellent source for gathering consumer opinions. There are now numerous Web sites containing such opinions, e.g., customer reviews of products, forums, discussion groups, and blogs. Nowadays we get all the technical specifications of a product on the Web, but what matters is what the customer feels about or what his opinions about the product are. This paper focuses on analyzing and summarizing online customer reviews of products. While analyzing we devise a new approach for NLP, by assigning a latent weight to each aspect/feature of a product. After extracting the sentiment in each sentence of the review, we summarize the opinions and express it graphically. This will not only help customers but also help the product manufacturers to get an indirect customer feedback.

Keywords: NLP, Sentiment Analysis, Opinion mining, Latent weight, Visualization

References: