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Robust image watermarking aims to embed invisible information, typically for copyright protection applications, in images in a way that the watermark is robust against various image processing attacks. Such attacks can be divided into signal processing and geometric attacks leading to different requirements for achieving robustness against attacks. This thesis investigate approaches to robust image watermarking focusing on the type of watermarking techniques termed as “second generation watermarking”. This class of watermarking schemes increases robustness against geometric attacks by including the use of the image's perceptual features into the marking/detection process. Additional focus is put on the wavelet transform and its properties relevant for applications in robust image watermarking.

**Keywords:** Digital Image Watermarking, Singular Value Decomposition, Watermark Embedding Algorithm, Watermark Extracting Algorithm.

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**Abstract:**

In recent years privacy preservation micro data publishing has gained wide popularity. Two of the most widely used anonymization techniques are generalization and bucketization. Bucketization doesn’t prevent membership disclosure and it doesn’t apply for data that don’t have a clear distinction between quasi-identifiers and sensitive attribute. On the other hand, generalization loses high amount of data. A combination of both i.e., slicing provides better data utility but still its prone to attacks. Slicing protects the data against membership and attribute disclosure but it doesn’t provide any details about identity disclosure. To overcome this we apply k-anonymity through ranging which will improve the overall utility and privacy of data. Here the data is not lost as well as it doesn’t result in inference attacks.

**Keywords:**

- Anonymization, Data Privacy, Privacy Preservation, Slicing.

**References:**

Abstract: The main objective of this project is to come out with a new and effective idea for measuring the quality of the software (software quality metrics). The existing product quality metrics which is a subset of the software quality metrics focus on measuring the quality by MTTF [Mean Time To Failure] and DD [DEFECT DENSITY]. We bring in a new idea called the “DENSITY OF DEFECT”, stressing that quality of the product can be better judged by measuring the DENSITY of the identified defect, proving that merely the number of defects will not be an effective parameter for quality estimation as stated in DEFECT DENSITY. This project’s scope will also include how the density of defect idea can be effective enough in measuring not only the quality but also in reducing the effort of identifying and correcting the individual defect.

Keywords: DD--Defect Density. D(D) -- Density of Defect. LOC -- Lines Of Code.

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Authors: Antony Sagaya Jeyanthi, K.C.Nishitha
Paper Title: Optimum Security Service for Heterogeneous Multicast Receivers

Abstract: The Resource Reservation Protocol (RSVP) lets hosts request quality of (bandwidth) service for multicast applications on the Internet. As network equipment advances to provide improved bandwidth service, security service becomes the more critical problem. However, RSVP does not provide a flexible mechanism to support quality of service (QoS). Security service RSVP extends RSVP to provide the needed mechanism for dynamically negotiating QoS among the senders and heterogeneous receivers of multicast applications on the Internet with minimum overhead. SSRSVP provides different QoS resolutions according to receiver nodes’ security service needs.

Keywords: Multicast, Quality of Security Service, Resource ReSerVation Protocol.

References:
Abstract: The three concepts of information science are data, information, and knowledge. The structure of one is different from another. The structure of knowledge is more complex than data and information. Knowledge management is complex for traditional management techniques due to its complex structure and difficult to achieve common structure for knowledge captured from heterogeneous sources. Ontology is a upright technology to represent knowledge. Ontology provides homogeneous structure for knowledge acquired from heterogeneous sources. It enables knowledge sharing within and among organizations. Ontology-based knowledge management provides a better support for integration of related knowledge sources and searching. The current work proposes a enhanced and clear framework for knowledge management using domain ontology. It addresses major issues of traditional and existing ontology-based knowledge management systems.

Keywords: Knowledge, Knowledge Management, Knowledge Representation, Ontology.

References:
Abstract: This paper presents the design and implementation of a simple fuzzy logic controller (FLC) for a DC-DC buck converter based on the PIC18F4550 microcontroller to control the lead acid battery charging voltage in solar cells applications. For cost consideration, an inexpensive 8-bit microcontroller is selected to program and implement the FLC proportional-integral. The obtained simulation and experimental results show the viability of the controller with a variation on the load of the buck converter showing a good performance on the design of the FLC, and it has also a smooth response with a small overshoot. The DC-DC converter designed in this work can be found applications in low cost photovoltaic (PV) systems, although in the literature has been already reported this kind of devices with a better response [3-4], however these use a expensive microcontroller or its designs are very complex, and where these are not necessary for this kind of applications. Finally, a prototype PV system with 100 V/6 A has been implemented for verifying the feasibility of the CD-CD converter.

Keywords: DC-DC converter, fuzzy logic control, and Microcontroller.

References:
Keywords: Vedic Multiplier, urdhva tiryakbhyam, High Speed, Low Power, Latency.

References:

Authors: Manndeep Devgan, Kanwalvir Singh Dhinnda

Paper Title: An Approach to Different QoS Management in Cloud Systems

Abstract: Cloud Services are becoming a major system for constructing distributed systems. Service-oriented architecture (SOA) is widely working in electronic business, electronic -government, automotive systems, multimedia services, process control, finance, and a lot of other domains. Quality-of-Service (QoS) is usually employed for describing the non-functional characteristics of Cloud services and employed as an important differentiating point of different Cloud services. With the prevalence of Cloud services on the Internet, Cloud service QoS management is becoming more and more important. This paper first study a distributed QoS evaluation technique for Cloud services. In this technique, users in different geographic locations collaborative with each other to evaluate the target Cloud services and share their observed Cloud service QoS information. Based on this Cloud service evaluation technique, several large-scale distributed evaluations are conducted on many real-world Cloud services and the detailed evaluation results are released for future research. Cloud service evaluation is time and resource consuming. Moreover, in some scenarios, Cloud service evaluation may not be possible (e.g., the Cloud service invocation is charged, too many service candidate, etc.). Therefore, Cloud service QoS prediction approaches are becoming more and more attractive. In order to prediction the Cloud service QoS as accurate as possible, this paper studies three prediction methods. The first prediction method employs the information of neighborhoods for making missing value prediction. The second method discusses matrix factorization techniques to enhance the prediction accuracy. The third method predicts the ranking of the target Cloud services instead of QoS values. The predicted Cloud service QoS values can be employed to build fault-tolerant service-oriented systems. In the area of service computing, the cost for developing multiple redundant components is greatly reduced, since the functionally equivalent Cloud services are provided by different organizations and are accessible via Internet. Hence, based on the predicted QoS values, this paper study two methods for building fault tolerance Cloud services. Firstly, this paper studies an adaptive fault tolerance strategy for Cloud services. Then, this paper presents an optimal fault tolerance strategy selection technique for Cloud services.

Keywords: QoS, Evaluation, Prediction, Active User, Ranking.

References:
Energy Efficient Routing Algorithm for Mobile Adhoc Networks – A Survey

Abstract: Mobile ad hoc networks are infrastructure-less networks used for communication between two or more nodes without a common access point. There are a number of Routing protocols proposed in the recent scenario. In the case of On-Demand routing, Algorithms such as AODV and DSR were considered as one of the effective method for achieving Quality of service parameters compared to Table Driven method. Establishing correct and efficient routes is an important design issue in MANETs along with Energy Efficiency. Energy based papers proposed in the recent years consider the on-demand routing of AODV and DSR and certain modifications have been applied in order to extract a better energy efficient routing algorithm. This paper is a survey of new and improved energy based routing methods in Mobile Adhoc networks.

Keywords: MANET, Energy Efficiency, AODV, DSR, Quality of Service.

References:

BCI Based Wheelchair Control Using Steady State Visual Evoked Potentials and Support Vector Machines

Abstract: This paper presents a Steady State Visual Evoked Potential (SSVEP) based Brain Computer Interface (BCI) system to control a wheelchair in forward, backward, left, right and in stop positions. Four different flickering frequencies in low frequency region were used to elicit the SSVEPs and were displayed on a Liquid Crystal Display (LCD) monitor using LabVIEW. The Electroencephalogram (EEG) signals recorded from the occipital region were first segmented into 1 second window and features were extracted by using Fast Fourier Transform (FFT). Three different classifiers, two based on Artificial Neural Network (ANN) and one based on Support Vector Machine (SVM) were designed and compared to yield better accuracy. Ten subjects were participated in the experiment and the accuracy was calculated by considering the number of correct detections produced while performing a predefined movement sequence. One-Against-All (OAA) based multiclass SVM classifier showed better accuracy than the ANN classifiers.

Keywords: ANN; Brain Computer Interface; Steady State Visual Evoked Potential; Support Vector Machines

References:
Image Compression Based on Hybrid Wavelet Transform Generated using Orthogonal Component Transforms of Different Sizes

Abstract: In this paper, image compression using hybrid wavelet transform is proposed. Hybrid wavelet transform matrix is generated using two component transform matrices. One component transform matrix contributes to global properties whereas second one contributes to local properties of an image. Different sizes of component transform matrix can be used to generate hybrid transform matrix so that its size is same as image size. Different colour images of size 256x256 are used for experimentation. Proposed hybrid wavelet transform is applied on red, green and blue planes of image separately. Then in each plane transformed coefficients are sorted in descending order of their energy and lowest energy coefficients are eliminated. Root mean square error between app.

References:
Software development is an extremely composite plus brainstorming action. In previous days programmers wrote programs by means of machine language in which they exhausted their more time in thinking about an exacting machine's instructions rather than the solution of the problem in their hands. Progressively, program developers switched to advanced stage of programming languages (high-level languages). Software testing is an imperative attribute of software quality. However the prediction of this attribute is a cumbersome process. Therefore various methodologies are proposed so far to estimate the testing time of software. Among them Fuzzy Inference System (FIS) and Adaptive Neuro- Fuzzy Inference System (ANFIS) is one of the sophisticated methods which have immense prediction capability and this paper explores its application to evaluate testing time of the aspect-oriented system. Prediction of testing time is performed by FIS and ANFIS. The results obtained from the current study are compared with adaptive neuro- fuzzy inference system and it is revealed that which model is more useful.

Keywords: Module oriented approach (MOA), Aspect oriented software approach (AOSA), Object Oriented Approach (OQA), Fuzzy Inference System (FIS), Adaptive Neuro- Fuzzy Inference System (ANFIS)

References:


Graph Coloring Problems (GCPs), Parallel Genetic Algorithms (PGAS), NP-hard, chromosomes.
15. Authors: Krivoshapko S. N., Gil-Ouble Mathieu
Paper Title: Geometry and Strength of a Shell of Velaroidal Type on Annulus Plan with Two Families of Sinusoids

Abstract: In this paper, the shells limited by two flat concentric circles are considered. Both families of coordinate lines are sinusoids. Their middle surfaces may be associated to the group of velaroidal type surfaces. Considered surfaces can find application in landscape architecture and also in design of some manufactured details and structures as consist of cyclically repeating identical elements. The stress-strain state of shell outlined on the considered surface and loaded by the dead weight is defined.

Keywords: a velaroidal surface, a thin-walled shell, architecture, the stress-strain state.

References:

16. Authors: S.P. Victor, M. Antony Sundar Singh
Paper Title: Design and Development of Abstractness in Graph Mining Technique using Structural Datum

Abstract: Graphs are everywhere, ranging from social networks and mobile call networks to biological networks and the World Wide Web. Mining big graphs leads too many interesting applications including cybersecurity, fraud detection, Web search, recommendation, and many more. In this paper we describe a technique for the conversion of real-time environment to a Graph Mining pattern. We analyze very large, real world graphs with billions of nodes and edges. Our findings include digraph structures in the connected component size distribution. In the future we will extend our research to propose a GraphTemplateConverter for any real-time complex entities.

Keywords: Graph mining, Graph pattern, Graph template, Graph network.

References:

17. Authors: Rashid Hussain, Sandhya Sharma, Vinita Sharma, Sandhya Sharma
Paper Title: WSN Applications: Automated Intelligent Traffic Control System Using Sensors

Abstract: In this new Era the growing Vehicle population in all developing and developed country calls for a major improvement and innovation in the existing Traffic Signaling systems. The most widely used automated system uses a simple time based system which working on a time interval basis which is now inefficient for random and non uniform Traffic. Advance automated systems in testing use image processing techniques or advance communication system with an intelligent information gathering systems in vehicles to communicate with signal and ask for routing. This might be implementable in developing countries as they are more complex and expensive also. The Concept Proposed in this paper involves use of Wireless sensor network technology to sense presence of Traffic near any circle or junction and then able to route the Traffic based on Traffic availability or we can say density in desire direction. This system does not require any system in vehicles so can be implemented in any Traffic system quite easily with less time and less expensive also. This system uses Wireless sensor networks Technology to sense vehicles and a microcontroller based routing algorithm programmed for excellent Traffic management.
Keywords: Intelligent trafficsignals, intelligentrouting, smart signals, wireless sensornetworks.

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Authors: Ch. Lavanya Susanna

Paper Title: Interactive Search over XML Data to Obtain Top-K Results

Abstract: Internet search engines are much popularized keyword search paradigm. However the search engine that uses html based model does not capture more semantics. But the xml model captures more semantics and navigates into document and displays more relevant information. The keyword search is alternative method to search in xml data, which is user friendly, user no need to know about the knowledge of xml data and query languages. This paper focuses on the survey of techniques used to retrieve the top k results from the xml document more efficiently.

Keywords: xml, html, keyword search, xml data

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Authors: Sasikumar Gurumurthy, Valarmozhi

Paper Title: System Design for Baseline Wander Removal of ECG Signals with Empirical Mode Decomposition Using Matlab

Abstract: The electrocardiogram (ECG) records the cardiac activity and it is extensively used for diagnosis of heart diseases. It is also an essential tool to allow monitoring patient sat home, thereby advancing telemedical applications. Even though these contributions are for different projects, the issue common to each is the use of ECG for remote monitoring and assistance under different telecommunication platforms. The transmission of ECG often introduces noise due to poor channel conditions. In this paper, we propose a new method for removing the baseline wander interferences based on Empirical Mode Decomposition (EMD). EMD is a relatively new, data-driven adaptive technique used to decompose ECG signals into a series of Intrinsic Mode Functions (IMFs). The baseline wander is mainly involved in special lower frequency IMFs. To evaluate the performance of the method, Clinic ECG signals are used. Results indicate that the method is powerful and useful in removing the baseline wander in ECG signal and does not distort the ECG signals.

Keywords: Baseline Wander, Empirical mode decomposition, Electro cardio Gram, Intrinsic Mode Functions

References:

Authors: Suryakant Kawaiart

Paper Title: Algorithm for Person Detection in Adaptive Background Using Matlab Platform

Abstract: Detection of motion is the first essential process in the extraction of information in moving objects and makes use of stabilization in functional areas, such as tracking, classification, recognition, and so on. In this paper, we propose an approach to motion detection for the automatic visual surveillance system. Our method achieves complete detection of moving objects by involving three significant proposed modules: a background modeling module, a trigger module and an object extraction module. For our proposed first module, a unique two-phase background matching procedure is performed using rapid matching followed by accurate matching in order to produce optimum background pixels for the background model. Next, our proposed trigger module eliminates the unnecessary examination of the entire background region, allowing the subsequent third module to only process blocks containing moving objects. Finally, we get a moving object with subtracted background.

Keywords: detection, extraction, surveillance, trigger.

References:

Authors: Kuldeep Singh, Preeti Abrol, Neelam Rathi

Paper Title: Review on Digital Stethoscope

Abstract: The stethoscope is one of the basic diagnostic tools in the medical world. The heart sounds are generated by the beating heart and the resultant flow of blood through it. It can provide the information of patient's cardio respiratory system. The death due to heart diseases has become the second mortality after the stroke in the world.

Heart sound stethoscope is primary stage to access. Stethoscope is an acoustic medical device for listening to internal sounds in human body. Some researchers concluded that an abnormal heart-rate profile during exercise and recovery is a predictor of sudden death. Because the incidence of cardiovascular disease increased every year, cardiovascular diseases relating to heart has become worldwide common and high prevalent disease. A digital stethoscope provides revolutionized way of auscultating the heart sounds.

Keywords: auscultation, microcontroller, heart sounds, stethoscope.

References:
The many different mean shift techniques for object tracking in real time are discussed in this paper. The mean shift is a non-parametric feature space analysis technique. It is a method for finding local maxima of a density function from given discrete data samples. There are several approaches that use the mean shift techniques for locating target objects. These techniques are taken from the literature dating back to the earliest methods. It is shown that at least 07 distinct methods have been introduced in the literature, with many variations on implementation. This paper should serve as a convenient reference for future work in real time object tracking.

Keywords: Mean shift, CAMshift, ABCshift, Path assigned mean shift, SOAMST and Fuzzy clustering mean shift

References:

Authors: Apoorvi Sood
Paper Title: Artificial Neural Networks- Growth & Learn: A Survey
Abstract: Incremental Learning using Constructive algorithms help us to change the structure of the neural network by adding or removing the links. These algorithms start with a small network which grows dynamically by the addition of hidden layers/units. Thus we need to overcome the problem of over-fitting and get a network with high generalization performance.
Keywords: Artificial Neural Networks, Constructive Algorithms, Optimization Algorithms, Genetic Algorithms, non-Evolutionary Algorithms.
References:

Authors: Saikat Singha Roy, Joyshri Das, Susovan Mondal

Paper Title: Effective System Identification Using Fused Network and DE Based Training Scheme

Abstract: Adaptive direct modeling or system identification finds extensive applications in telecommunication, control system, instrumentation, power system engineering and geophysics. If the plants or systems are non-linear, dynamic, single-input single-output (SISO), the identification task becomes more difficult. The dynamic system identification task is basically a model estimation process of capturing the dynamics of the system using the measured data. The Functional Link Artificial Neural Network (FLANN) is a single neuron single layer network first proposed by Rao. The structure of the FLANN is simple as it represents a flat net with no hidden layers. Therefore the computation and learning algorithm used in the architecture is straightforward. In the present investigation the identification problem is performed on three standard benchmark nonlinear dynamic series-parallel models using Differential Evolution (DE) for training the weights of FLANN structure. The performance of the proposed FLANN-DE identification model is compared with FLANN-Genetic Algorithm and FLANN-Back Propagation method.

Keywords: Differential Evolution, FLANN, Genetic Algorithm, System Identification.

References:

25. In this paper, we present and analyze the performance of a parallel interference cancellation (PIC) scheme for multicarrier (MC) direct-sequence code-division multiple-access (DS-CDMA) systems. In order to mitigate the multi-path interference (MPI) in the DS CDMA system. At each cancellation stage in the proposed PIC scheme, on each subcarrier, a weighted sum of the soft outputs of the other users in the current stage is cancelled from the soft output of the desired user to form the input to the next stage. At the last stage, the interference cancelled outputs from all the subcarriers are maximal ratio combined (MRC) to form the decision statistic. Parallel interference elimination is first proposed in this paper the multi-path interference are evaluated by tentative decision and known user information. Then the performance over Rayleigh fading channel are analyzed and compared to Matched filter, Decorelator, successive interference cancellation (SIC) and conventional parallel interference cancellation (PIC). It is shown that PIC performance can be improved greatly by using this method with simple structure and easy implementation.

Keywords: MRC; Multi-path interference Parallel interference cancellation; Rayleigh fading; Serial interference cancellation (SIC);

References:
1. Analysis of Successive Interference Cancellation in CDMA systems 2012 Second International Conference on Advanced Computing & Communication Technologies
15. Peng Hui Tan†, Lars K. Rasmussen‡ and Teng Joon Lim,“Iterative Interference Cancellation as Maximum-Likelihood Detection in CDMA”, Centre for Wireless Communications, National University of Singapore.

26. In present paper, we are providing enhanced security to Manet using the Back Propagation Method of Artificial Neural Networks. Here we eliminate the use of files for storing the passwords or other encrypted content used in the network, by replacing them with much secure weight matrix of Back Propagation. The neural network system is trained for some data and then file used for storing the data is eliminated, resulting confidentiality of connection. Thus the method makes the system more secure.

Keywords: Mobile Adhoc Network, Artificial Neural Network, Pattern Mapping Technique.

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10. John Cannady, “Artificial Neural Networks for Misuse Detection”, School of Computer and Information Sciences Nova Southeastern University Fort Lauderdale, FL 33314

Authors: Zaid G. Ali, R. B Ahmad, Abid Yahya
Paper Title: Burst Fragmentation Model Based on Sequential Burst Allocation Algorithm for Mobile WiMAX

Abstract: the downlink Bandwidth resources of WiMAX are allocated by the burst allocation algorithm. The algorithm is responsible for calculating the appropriate location of a number of the smallest unit of bandwidth which is called the slot for all users within the downlink subframe in the form of bursts. Resource wastage in the form of unused and unallocated slots is a real common problem accompanies resource management in the burst allocation algorithms. This paper investigates the Sequential Burst Allocation (SBA) that based on sequential slot allocation and burst fragmentation. An analytical model of frame utilization has been derived. Moreover, this paper presents criteria of burst fragmentation and investigates the effect of burst fragmentation to the allocation efficiency. It has been observed from the results that the SBA algorithm outperforms the Standard (ST) algorithm in term of number of users and resource wastage reduction per frame. The research results illustrates that burst fragmentation can enhance the proportion of frame utilization with minor effect to the overhead size. As well as, the results are useful to be a heuristic guide line for MAC layer scheduler to decide the best burst size that can be used.

Keywords: Burst allocation, Burst fragmentation, Downlink subframe, Overhead, Mobile WiMAX.

References:

Authors: Tristan Daladier Engouang, Liu Yun
Paper Title: Africa on the Way to Global Wireless Digital Television

Abstract: The African governments and the United Nations’ project of enabling full access to information and communication technology (ICTs) to all citizens, is of the most ambitious in Africa. Thanks to advancements in the broadcasting technology, the resulting digital television has led to transform the viewer experience, offering images with far better improved resolution and quality, whereas the sound is of the best quality. From the huge data consumption in mobile telephony causing the scarcity of frequency spectrum, the International telecommunication union (ITU), required from every countries worldwide to migrate from analog to digital signal, which become mandatory because, as of today, only the techniques used in digital broadcasting are spectrum efficient, what means requiring less spectrum for the transmission of a television signal of a very higher quality, explaining why a huge parts of that spectrum is been freed up for the benefit of multiple other services such as fire, education, emergency, governments, security. The trend as on the buzz in Africa became about switching over, but because, newest television equipments requires investing enormous funds, African countries are expecting foreign companies to operate in the digital television market expanding in the whole continent. In addition to the shortest time left to meet the deadline set on June 17th, 2015 by ITU, of just two years from now, when considering that as of may 17th, 2013, number of African have not started migrating their television system from analog to digital, what explain at this stage the latency and which, is as risky as it could led Africa to rush, avoiding to fulfill proper studies, in term of coverage, and market pricing. Analyzing properly the African situation, where choosing the wireless television including Satellite and terrestrial, over the cable television appears to be wiser. Moreover, it is worth that the transition started in 2008, in Rwanda, with the opening of the Chinese company Startimes’ subsidiary, after receiving the first terrestrial digital TV operating license for pay television services.
Interference Cancellation for Ds-Ss Using Rectangular Window Ltv Filter and Sliding Discrete Time Fourier Transforms (Dsstf) Techniques

Abstract: Interference suppression in spread spectrum communication systems is very essential for achieving maximum system performance. Existing interference suppression methods do not perform well for most types of non stationary signals. First the interference suppression schemes based on orthogonal time-frequency decomposition, wavelets and arbitrary time-frequency signals are considered. These methods often reduce interference substantially; however the minor changes in interference characteristics such as the center frequency may require changes in the mathematical modeling. The rectangular window methods for fractional Fourier transform with accompanying blind interference excision scheme appears very promising for mitigating time-frequency dominated interference. The present work includes simulations with narrowband interference and comparison of the performance and illustration with different methods. The performance of the rectangular window is evaluated with existing Discrete Short time Fourier Transform algorithm (DSTFT) for filtering with various Jamming-to-Signal Ratios (JSR) starting from 40 dB to 100 dB in steps of 10 dB. Model simulation results with proposed algorithm shows considerable improvement in Signal-to-Noise Ratio (SNR) for the DS-SS signal compared to that of STFT filtering. The results are presented and discussed in the paper.

Keywords: (SDTFT), (JSR), (SNR), DS-SS.

References:

The modern era of search technology has changed the way the information searched and retrieved compared to the previous decade of search engines. Today’s search engine has evolved as a way of shifting the locus of control over information dissemination closer to the consumers of that content. Information retrieval being a vast field, has many application related to it. In this paper we analyze various fields in which IR is being used as an application. We divide the application into seven categories; they are Communication, Databases, Natural Processing Principles and Implementation, Narosa Publishing House, New Delhi, India, 2005 Chapter 5, pp. 122–124.

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Authors: Preeti.G.Biradar, Uma reddy,N.V

Paper Title: Implementation of Area Efficient OFDM Transceiver on FPGA

Abstract: orthogonal frequency division multiplexing (OFDM) is a modulation technology which is widely adopted in many new and emerging wired and wireless communication systems. OFDM offers superior advantages of high spectral efficiency, robustness against an inter carrier and inter symbol interference. In this paper we are designing a transceiver of an OFDM and it is implemented on FPGA. In order to reduce the circuit complexity and space, pipelined 128 point FFT /IFFT architecture is used and also aims to optimize in terms of area and speed at low frequency.

Keywords: FFT/IFFT, OFDM, Pipeline, spectral efficiency

References:


Authors: Muthu, Vinothkumar, Einstein, Subala
Paper Title: AASLTU: An Advanced System for Location Tracking and Updating

Abstract: A definition of tracking deals with pursuit of something that involves capturing of various events such as location, persons, etc. Now a days mobile phone plays a vital role from communication to store information but when it gets lost we would disconnect. Here we introduce an application called AASLTU (An Advanced System for Location Tracking and Updating). This application will help you locate the street view of the location. This works by using GPS which will track and show the mobile in the map. This application has a web portal which will allocate credentials to every user. These credentials will be stored in the server. So by using this web portal link we can even view the location of our device from any place. This application will also reveal the last updated information of the mobile if it is in the dead state, that is, when it is switched off. When the mobile turns to active state it will start to update the current location of the mobile. We have to just install the application in our android mobile so we can view the location of the mobile from our mobile itself. This is a user friendly application where we can easily locate our mobile by having an authorized access.

Keywords: Global Positioning System, Global Positioning System, Location Based Service, Location Proof, Location Privacy, Pseudonym, Colluding Attacks, Delay Lock Loop, Pseudo Random Noise.

References:

Authors: Manasee Patil, S.R.N. Reddy

Paper Title: Comparative Analysis of RFID and Wireless Home/Office Automation

Abstract: Wireless Sensor Network (WSN) is most widely used wireless technology in different applications. Home automation makes day to day life of people easier.WSN provides flexible management of lighting, heating, cooling and security from anywhere in the home/office [20]. In this project we propose use of both wired and wireless technology for home/office automation. RFID technology is used for automatic door opening & closing. We also propose use of wireless sensor network for temperature, lighting, smoke detection and automatic door opening & closing.GSM technology is used in this project to monitor and control various devices from outside the home/office.

Keywords: Bluetooth, GSM, RFID, Wireless Sensor Network.

References:
Hybridizing Filters and Wrapper Approaches for Improving the Classification Accuracy of Microarray Dataset

Abstract: Feature selection aims at finding the most relevant features of a problem domain. However, identification of useful features from hundreds or even thousands of related features is a nontrivial task. This paper is aimed at identifying a small set of genes, to improving computational speed and prediction accuracy; hence we have proposed a three-stage of gene selection algorithm for microarray data. The proposed approach combines information gain (IG), Significance Analysis for Microarrays (SAM), mRMR (Minimum Redundancy Maximum Relevance) and Support Vector Machine Recursive Feature Elimination (SVM-RFE). In the first stage, the intersection part of feature sets is identified by applying the (SVM-IG). While, the second minimizes the redundancy with the help of mRMR method, which facilitates the selection of effectual gene subset from intersection part that recommended from the first stage. In the third stage, the SVM-RFE is applied to choose the most discriminating genes. We evaluated our technique on AML and ALL (leukemia) dataset using Support Vector Machines (SVM-RBF) classifier, and show the potentiality of the proposed method with the advantage of improving the classification performance.

Keywords: Feature selection, Filters, Wrappers, Support vector machine, Microarray.

References:


Authors: S.Ezhil Vannan, S.Paul Vizhian

Paper Title: Investigation on the Influence of Basalt Short Fiber on Thermo-Physical Properties of Aluminium Metal Matrix Composites

Abstract: The objective of this research work was to investigate on the influence of basalt fiber on the microstructure and thermo-physical properties of Al /basalt short fiber metal matrix composites (MMCs). The MMCs were fabricated by liquid metallurgical technique and the basalt short fiber varies from 0 to 10 wt. %. The developed MMCs were characterized for damping, coefficient of thermal expansion, specific heat and electrical resistance using dynamic mechanical analyzer, thermal mechanical analyzer, differential scanning calorimeter and four probe electrometer respectively. The results shows that the specific damping properties and specific heat increase with increasing basalt fibers addition but, electrical resistivity and coefficient of thermal expansion decreased.

Keywords: Metal Matrix composites (MMCs), Basalt fiber, Dynamic mechanical analyzer (DMA), Thermal mechanical analyzer (TMA), Differential scanning calorimeter (DSC)

References:

Authors: Vijay Pal Dhaka, Swati Agrawal

Paper Title: Optimization of Object-Oriented Metrics Using Hopfield Neural Network

Abstract: This paper examined the application of Artificial neural network for software quality prediction using object-oriented metrics. Quality estimation include estimating maintainability of software. In this study maintenance effort was chosen as the dependent variable and principal components of object-oriented metrics as the dependent variables. We are prediction the number of lines per changed per clas effort was chosen as the dependent variable and principal components of object-oriented metrics.

Keywords: Software quality metrics, maintainability, object-oriented, neural network, principal component analysis

References:

Authors: Parvathi R, Shanthi Saravanan D

Paper Title: Efficient Fingerprint Recognition System using Pseudo 2D Hidden Markov Model

Abstract: Fingerprint can only uniquely identify a person when compared to other types of biometric features. The existing system used the combination of bayes classifier and Henry classifier to increase the speed of authentication process and to provide accurate classification system respectively. But, the combination of those classifiers in real time systems becomes difficult to implement. This fingerprint recognition system uses the pseudo 2D hidden markov model which considers each types of fingerprint as separate states with different levels of markov chain. During the recognition process, the markov model verifies each super states to identify which types of fingerprint, then it can match the given fingerprint image with the image which are kept in database. The proposed work will improve the speed and recognition rate by using the pseudo 2D hidden markov model.

Keywords: fingerprint recognition, hidden markov model, viterbi algorithm, fingerprint classification.

References:

Authors: Liping Guo, Alec W. Leedy, Sidney Schauf, Brian Backs, Mark Gabatino, Nathan James, Mike Pintozzi

Paper Title: Modeling of AC Contactors to Improve Life

Abstract: The life expectancy of an AC contactor is adversely affected by electrical arcs and heat rise within the contactor. Electrical arcing results in erosion in the contact material and also results in failures due to welding. To find alternative methods of improving contactor life expectancy and reduce the maximum temperature without adding costs to production, a computer model was created for the contactor using MATLAB and Simulink that
simulated the dynamics of the contactor at closing. The model solves equations that use geometries and material properties to estimate contact life and heat generation. The results from the simulation can be used to run a Design of Experiments analysis to find which combinations improve life and reduce maximum temperature without adding significant costs.

**Keywords:** AC contactors, Design of Experiments (DOE), MATLAB, and Simulink.

**References:**

**Authors:** S.R.Madkar, R.K.Prasad

**Paper Title:** A State of Art on Design of Low Cost Transceiver for Data Acquisition in WSN

**Abstract:** This paper explores the potential of WSN in the area of agriculture in India. Aiming at the crop, a multi-parameter monitoring system is designed based on low-power ZigBee wireless communication technology for system automation and monitoring. Real time data is collected by wireless sensor nodes and transmitted to base station using ZigBee. Data is received, saved and displayed at base station to achieve soil temperature, soil moisture and humidity monitoring. The data is continuously monitored at base station and if it exceeds the desired limit, a message is sent to farmer on mobile through GSM network for controlling actions. The implementation of system software and hardware are given, including the design of wireless node and the implementation principle of data transmission and communication modules. This system overcomes the limitations of wired sensor networks and has the advantage of flexible networking for monitoring equipment, convenient installation and low cost and reliable nodes and high capacity.

**Keywords:** AVR Microcontroller, GSM, remote monitoring, LCD, Sensors, ZigBee.

**References:**
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**Authors:** Nana Kacharu Zalile, Roshan M. Pandav

**Paper Title:** A Novel Approach for Grid Service Reliability Modeling Optimal Task Scheduling Perceiving Fault Recovery

**Abstract:** Since last few years, grid technology has come into sight as a significant tool for solving and computing high intensive problems from different area. Grid reliability analysis and modeling are not easy tasks because of the complexity and large scale of the system. While concerning on large scale system, large subtasks requires time-consuming computation, consequently the reliability of grid service could be rather low. Our paper tries to focus on this reliability and task scheduling in the grid. In the existing system all researchers focused on the remote node fault recovery where greater waste is consumed on time and resource. Furthermore those systems did not incorporate the fault recovery and the practical constraints of grid resource on optimization. Resultantly our paper considers the Local Node Fault Recovery mechanism into grid systems, and presents a solution to simultaneously maximize the grid service reliability modeling and analysis with this kind of fault recovery thereby minimizing the cost. Our proposed Grid Service Reliability & Node Recovery (GSRNR) mechanism considers some practical, some constraints such as the life times of subtasks, the numbers of recoveries performed in grid nodes, and thus grid service reliability models under these practical constrictions are developed. Presuming the proposed grid service reliability model, a multi-objective task scheduling optimization model is presented, and Min Max scheduling algorithm is developed to solve it effectively.

**Keywords:** Grid Computing, Fault Tolerance, Grid Service Reliability, Local Node Fault Recovery

**Authors:** Nana Kacharu Zalile, Roshan M. Pandav

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**Keywords:** Grid Computing, Fault Tolerance, Grid Service Reliability, Local Node Fault Recovery
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15. Deeksha R Shetty, Savitha Patil

Paper Title: Improving Accuracy in Mitchell’s Logarithmic Multiplication Using Iterative Multiplier for Image Processing Application

Abstract: The logarithmic of a binary number may be determined approximately from the number itself by simple shifting and counting. Since the logarithms used are approximate there can be errors in the result. This paper presents a simple and efficient logarithmic multiplier with the possibility to achieve an arbitrary accuracy through an iterative procedure. Digital image processing is used in variety of application. Many algorithm used in image processing include convolution. In this coding is done using VHDL for the FPGA. Synthesis and simulation is done using Xilinx and MATLAB is used to convert input image into a matrix form which is convolved with the kernel value using proposed multiplier and the result is again converted back into a image form using m.file.

Keywords: logarithmic number system , computer arithmetic , digital signal processing, multiplier, convolution.

References:


Authors: Antonio Piras, Zhibin Gui, Limin Qiao, Kai Gui, Yongxiang Fan

Paper Title: Effect of Negative Electrostatic Field Treatment on Germination of Seeds Soaked GA3

Abstract: Tree seed germination improvement of tree species with shallow dormancy may represent an effective process to enhance restocking of forests and woodlands that have been depleted. Although sometimes conflicting
results have been obtained, some studies showed the beneficial effects of applied static electric field (electrostatic field) on seed germination and seedling growth. We think that the different treatment effects reported may depend on the dosage, exposition time, process and vigor index of the seeds. We previously showed improved tree seed germination of pine seeds by positive electrostatic field treatment using our apparatus and procedure, and the purpose of the present study was to investigate the effects of the negative electrostatic field treatment on germination, using the same experimental procedure. The results indicated that the negative electrostatic field treatment on pine seeds soaked with 100 ppm of gibberellic acid (GA3) is not so effective as the positive one, with slightly improved germination percentage at the electrical voltage of -500 kV/m 10 min, and increasing the intensity of the negative electrostatic gradient resulted in a reduction of seedling growth.

Keywords: Electrostatic Field, GA3, Germination, Seedling Growth, Soaked Seed.

References:

Authors: Sanjeev Kumar, Ajay Indian, Zubair Khan

Paper Title: Neural Network Model for Prediction of Ground Water Level in Metropolitan Considering Rainfall-Runoff as a Parameter

Abstract: In metropolitan area the ground water is the important resource of drinking water. To preserve the ground water level several rain water harvesting techniques are implemented now a days. A neural network model has been developed for ground water level prediction. Various models developed before for ground water level prediction with artificial neural network methodology. Most of these models these models consider rainfall and current ground water level as input parameter. This model considers rainfall-runoff as an important factor which represents the performance of rain water harvesting techniques in urban area. So this model predicts the ground water level with the effect of rain water harvesting techniques.

Keywords: Artificial neural network, ground water level, rainfall-runoff, backpropagation feed forward network, Levenberg-marquardt algorithms.

References:
Paper Title: Implementation of OFDM Transmitter and Receiver Using FPGA

Abstract: Orthogonal Frequency Division Multiplexing (OFDM) is the most promising modulation technique. It has been adopted by most wireless and wired communication standards. The idea is to utilize a number of carriers, spread regularly over a frequency band, in such a way so that the available bandwidth is utilized to maximal efficiency. The objective of this paper is to carry out an efficient implementation of the OFDM system (i.e. transmitter and receiver) using “Field Programmable Gate Array (FPGA)” and find the result by simulating all the blocks used in proposed project by using QuartusII & Modelsim simulation tool.

Keywords: OFDM, FPGA.

References:
2. G.M. Bhat, M. Mustafa, Shabir Ahmad and Javaid Ahmad “modelling and simulation of data scrambler and describbler for secure data communication”, Indian Journal of Science and Technology 2009.
The Economic Load Dispatch (ELD) problems in power generation systems is to reduce the fuel cost by reducing the total cost for the generation of electric power. This paper presents an efficient Novel TANAN’s Algorithm (NTA), for solving ELD Problem. T

Abstract: Gaussian pulse shaping filters plays an important role in digital communications due to its intersymbol interference free property. The pulse shaping filter is a useful means to shape the signal spectrum and avoid Interferences. In this paper a Gaussian filter has been presented for pulse shaping in wireless communication systems. The proposed filter has been designed and simulated using Matlab. The simulated results show that the designed Gaussian filter can be implemented using 11 number of multipliers and 10 number of adders by providing 11 multiplications per input sample and 10 additions per input sample. Thus the designed filter provides cost effective solution for mobile and wireless communication systems.

Keywords: FIR, GSM, HDTV, MATLAB, WLAN

References:
and including valve point loading effects. The NTA is a simple numerical approach based on a parabolic TANAN methodology. This paper presents an application of NTA to ELD for different IEEE standard test systems. ELD is applied and compared with various optimization techniques. The simulation results show that the proposed algorithm outperforms previous optimization methods.

**Keywords:** Economic Load dispatch, Evolutionary Programming (EP), Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Taguchi Method(TM).

**References:**

**Authors:** Tonye K. Jack, Gbanabolou Jombo

**Paper Title:** Experimenting with the Java Computer Language in Engineering Calculations: Application to Statically Indeterminate, Rigid, Multi-Bearing Shaft Analysis

**Abstract:** Not many engineering programs written in the Java Computer Language have been successfully to complex engineering projects. In this article, the Java computer language is applied to the analysis of statically indeterminate beam models using the Domain and Patch exact Beam analysis method. Java source codes and subroutines for the numerical three-support beam model example presented are listed, to act as reusable productivity tool kit to aid developers to minimize development time and effort.

**Keywords:** Beam Deflection Analysis, Engineering Programs, Java Programming, Shaft Analysis, Shaft Design, Rigid Bearing Analysis, Statically Indeterminate Beam Analysis, Structural Analysis

**References:**

220-236
Comparative Study of Selected Data Mining Algorithms Used For Intrusion Detection

Abstract: In the relatively new field of data mining and intrusion detection a lot of techniques have been proposed by various research groups. Researchers continue to find ways of optimizing and enhancing the efficiency of data mining techniques for intrusion attack classification. This paper evaluates the performance of well known classification algorithms for attack classification. The focus is on five of the most popular data mining algorithms that have been applied to intrusion detection research: Decision trees, Naïve bayes, Artificial neural network, k-nearest neighbor and Support vector machines. We discuss their advantages and disadvantages and finally we induce the NSL-KDD dataset with the respective algorithms to see how they perform.

Keywords: Data mining, Intrusion detection, decision trees, Naïve bayes, Artificial neural network, k-nearest neighbor, Support vector Machines, NSL-KDD

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Segmentation of Touching Conjunct Consonants in Telugu using Minimum Area Bounding Boxes

Authors: J. Bharathi, P. Chandrasekar Reddy

Abstract: This paper addresses the problem of segmenting touching characters which are written or printed in the bottom zone. In the segmentation of machine printed Telugu document image, conjunct consonants are more prone to touching due to shape of the characters. It is important to segment them properly to improve the accuracy of the Telugu OCR as otherwise the reconstruction and mapping to editable electronic document is incomplete and often needs lot of tedious manual intervention. It is based on the script level characteristic that the secondary form of consonants are written in smaller size and its bounding box is smaller compared to the primary character. The structural feature of sharp peaks in both left and right side profiles at the touching location of the combined character is used for determining the correct segmentation location. The algorithm is tested on a dataset created
Use of Fuzzy C-Mean and Fuzzy Min-Max Neural Network in Lung Cancer Detection

Abstract: Lung cancer is a disease characterized by uncontrolled cell growth in tissues of the lung and is the most common fatal malignancy in both men and women. Early detection and treatment of lung cancer can greatly improve the survival rate of patient. Artificial Neural Network (ANN), Fuzzy C-Mean (FcM) and Fuzzy Min-Max Neural network (FMNN) are useful in medical diagnosis because of several advantages. Like ANN has fault tolerance, flexibility, non linearity, while FcM gives best result for overlapped data set, data point may belong to more than one cluster center and always converges . and, also, FMNN has advantages like online adaptation, non-linear separability, less training time, soft and hard decision. In this work, we propose to use FcM and FMNN on standard datasets, to detect lung cancer.

Keywords: Classification, Clustering, Fuzzy System, FCM, FMNN.

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Advanced Signal Processing Of Radar Wind Profiler Using Wavelet Transform Techniques

Abstract: Atmospheric Signal processing has been one field of signal processing where there is a lot of scope for development of new and efficient tools for cleaning of the spectrum, detection and estimation of the desired parameters. Atmospheric signal processing deals with the processing of the signals received from the atmosphere when manually stimulated using atmospheric Radar. Removal of clutter and noise in the radar wind profiler is the utmost important consideration in radar. In this paper, we implement wavelet thresholding for removing clutter and noise from radar wind profiler data. By applying the concept of discrete multi-resolution analysis and non-parametric estimation theory, we develop wavelet domain thresholding rules, which identifies the coefficients relevant for clutter and noise and suppresses them and increases the accuracy of wind vector reconstruction.

Keywords: Atmospheric Signal Processing, Spectrum, Detection, Clutter, Wind Profiler.

References:

Authors: Amandeep Kaur, Garima Saini

Paper Title: ICI Cancellation Using Zero-Padded Conjugate Transmission with Adaptive Receiver for OFDM Systems

Abstract: To overcome the effect of Intercarrier Interference (ICI) in OFDM system, the Zero-padded Conjugate scheme with adaptive receiver is proposed. In the conjugate algorithm first path contains the regular OFDM signal and in second path conjugate of first path is transmitted using Time Division multiplexing (TDM) for Time variant channels. Zero padding is done between two consecutive symbols to mitigate the effect of intercarrier interference to provide better time and frequency synchronization. Adaptive receiver uses block least mean-squared algorithm (BLMS) to adaptively update the frequency offset error. The simulation results are carried out using BPSK, QPSK and 16-QAM modulation techniques. The proposed scheme provides better BER rate than regular OFDM system, Conjugate cancellation (CC) and previous work for AWGN channel.

Keywords: Orthogonal frequency division multiplexing (OFDM), Adaptive receiver, Block least mean-squared (BLMS) algorithm, Intercarrier Interference (ICI), frequency offset.

References:

Authors: Rahmat Zolfaghari

Paper Title: Converting UML Description of Software Architecture to QNM and Performance Evaluation

Abstract: Converting UML Description of Software Architecture to QNM, provides a comparison between all kinds of designs with respect to performance indicators. Present study suggested a method for converting the UML description designing software to Queuing networks model (QN)model, which provides the application of using the UML in designing software with high performance; in other words it putting the performance in designing software and a high quality software is designed. In order to modeling the parts of system we use deployment diagram for allocating software components to hardware resources and activity diagrams to model software behavior, and use case diagrams to model workloads with the performance profile and An algorithm is provided for automatic production of the QN performance model from the XML(Extensible Markup Language) documents .used diagrams
with performance profiles (stereotype, label and limitation), using the ExportXMI software rational rose. performace modellod to software tool for performance analysis, so as the designer can test the fulfill of performance goals of his design according to type of different performance parameters and changing in value and chooses the best option in designing.

**Keywords:** UML (Unified Modeling Language), Queuing networks model (QNA) and Performance evaluation

**References:**
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**Authors:** K. Al-Mutib, E. Mattar, M. AlSulaiman, H. Ramdane, M. Emaduddin

**Paper Title:** Mobile Robot Floor Navigation using RGB+D and Stereo Cameras

**Abstract:** Real world indoor environments are rich in planar surfaces. Floor detection or ground-plane detection is a crucial requirement for a robotic navigation task. Despite frequent successes in this area, problems with detection of navigable floor with multiple planar and non-planar slopes at multiple heights still exist. For robust and safe navigation, such small variations such as floor joins, carpet deformities, raised steps and floor gradients need to be detected and robot path and kinodynamics plan must be adjusted accordingly. The authors suggest a recursive RANSAC segmentation based algorithm that estimates the dominant and sub-dominant plane models for all the navigable planes within a detected floor or a ground plane. The algorithm also divides the input point clouds intelligently into multiple regions of interest for both efficiency and accuracy enhancement. The recursive estimation approach for determining plane parameters helps to detect multiple planes within each region. Among other benefits of this approach, reduction of search space size for the estimation of plane parameters stands out to be the most striking result of this work. This region wise plane estimation approach also helps to reduce the computational load by selectively dropping less significant floor sections from estimation process. The floor estimation technique coupled with sensor response functions for two different point cloud generators further investigates into the robustness of the method when deployed on two distinct sensors i.e. RGB+D sensor and a stereo vision camera. In our experiments we segment navigable floor planes in real-time for a slowly moving sensor. The location and geometrical parameters of the floor planes are updated in a global coordinate system whenever a change their location is detected. The planes are associated to a grid map which serves as a path-planning reference to a mobile robot used in our experiments. The results of floor detection and the precision of floor anomaly detection are compared sensor-wise and with the ground truth defined by obstacle heights and configuration.

**Keywords:** Mobile Robotic System, Stereo Vision, Navigation, Grid-map, 3D terrain Maps.

**References:**
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