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Technical Advisory Board

1.

Authors: Sameer Thigale, Tushar Prasad, Ustat Kaur Makhija, Vibha Ravichandran

Paper Title: Prediction of Box Office Success of Movies Using Hype Analysis of Twitter Data

Abstract: Internet and Social Networking play a vital role in research field. It contains a massive diction about what people think. Twitter, is a micro blogging site where people post their views and preferences related to their interests. In this project, we try to predict the box office success of the movie by analyzing the hype created amongst the mob. We use sentiment analysis of Twitter data for the same. We are also considering the distribution area of the movie along with its genre. To display the output we plot the graph which depicts the success ratio of the movie.

Keywords: Prediction; social networking; regression; sentiment analysis.

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2.

Authors: K. Sharath Reddy, M. C. Sankalp, K. Pradeep Kumar, K. P. Shashidhar

Paper Title: Face Recognition System with GUI Using Digital Image Processing

Abstract: A facial recognition system is a computer application for automatically identifying or verifying a person from a digital image or a video frame from a video source. One of the ways to do this is by comparing selected facial features from the image and a facial database. It is typically used in security systems and can be compared to other biometrics such as fingerprint or eye iris recognition systems. An approach to the detection and identification of human faces is presented, and a working, near-real-time face recognition system which tracks a subject's head and then recognizes the person by comparing characteristics of the face to those of known individuals is described. This approach treats face recognition as a two-dimensional recognition problem, taking advantage of the fact that faces are normally upright and thus may be described by a small set of 2-D characteristic views. Face images are projected onto a feature space (`face space') that best encodes the variation among known face images. The face space is defined by the `Eigen faces', which are the eigenvectors of the set of faces; they do not necessarily correspond to isolated features such as eyes, ears, and noses. The framework provides the ability to learn to recognize new faces in an unsupervised manner. In this report we discuss about the feature based recognition and Eigen face method for facial analysis. In feature based facial recognition method the importance is given to the facial features, whereas the Eigen face method gives preference to the face. By combining both the above methods we obtain.

Keywords: "Feature Based Eigen face Method" for facial recognition.

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Authors: Santhana Krishnan B, Ramaswamy M

Paper Title: Energy Aware Cluster Based Multiplexed Routing Strategy for Wireless Sensor Network

Abstract: The paper invites the philosophy of time division multiplexing to the theory of data transfer in a Wireless Sensor Network (WSN). It endeavors to realize a Single Input and Single Output (SISO) framework on the boundaries of minimum use of energy with a view to increase the network life time. The mechanism assuages the formation of a clustered environment to articulate the realms of an Ad-hoc On demand Distance Vector (AODV) routing mechanism in an effort to eschew an energy efficient path for the delivery of information. The role of a Cluster Head (CH) aids in the process of creating a single path at a given time and engraves a perspective to address the demands of the increasing traffic. It augurs to reduce the consumption of energy required to carry the message from the source to the destination in the periphery of the chosen architecture. The simulation results in the Network Simulator (NS2)

platform measured in terms of the performance indices exhibit the merits of the Cluster Based Ad-hoc On demand Distance Vector (CAODV) scheme over similar approaches and erudite a new road map in the context of data communication for WSN.

Keywords: CAODV, Energy Efficiency, Multiplexing, Network Lifetime, SISO, Wireless Sensor Network.

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3. **14-19**

Authors:	**Gayathri Rajaraman, M. Anitha, K. K. Sood**
Paper Title:	**Wideband Gain-Enhanced Miniaturized Met Material-based Antenna for Wireless Applications**

Abstract: Complementary Split Ring Resonators and Spiral Resonators; a category of artificially-devised metamaterial components; are loaded onto a microstrip patch and effectively utilized for obtaining wideband behaviour through staggered resonances and for radiator size reduction. A basic inset-fed patch antenna is loaded with a pair of CSRR on both the sides with a small change in dimension leading to closely overlapping resonances resulting in a wide bandwidth. Additonally, a spiral resonator is inscribed in the ground-plane under the patch metallization to suppress surface waves and to improve the radiation characteristics. The antenna is simulated and optimized using Ansys HFSS®, abenchmarked commercial software. Analyzed results of the proposed antenna are presented. Satisfactory impedance and radiation characteristics are obtained with ~ 87% radiation efficiency and 6% miniaturization.

Keywords: Metamaterials, CSRR (Complementary Ring Resonator), Spiral Resonators, Miniaturization.

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4. **20-22**

Authors:	**A. B. Sawant, R. V. Jugdar, S. G. Sawant**
Paper Title:	**Light Transmitting Concrete by using Optical Fiber**

5.

Abstract: Small buildings are replaced by high rise buildings and sky scrapers. This arises one of the problem in deriving natural light in building, due to obstruction of nearby structures. Due to this problem use of artificial sources for illumination of building is increased by great amount. So it is very essential to reduce the artificial light consumption in structure. It is considered to be one of the best sensor materials available and has been used widely since 1990. Hungarian architect, Aron Losonczi, first introduced the idea of light transmitting concrete in 2001 and then successfully produced the first transparent concrete block in 2003, named LiTraCon. Since concrete is strong in compression and weak in tension and flexure.

Keywords: OFRC, Transparent Concrete, Lux, LITCON.

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23-28

6.

Authors:	**Resmi Ramachandran Pillai**
Paper Title:	**Enhanced Semantic Preserved Concept Based Mining Model for Enhancing Document Clustering**

Abstract: The project "Enhanced semantic preserved concept based mining model for enhancing document clustering" proposes the enhancement of data mining model for efficient informaion retreival. Concept based mining model is a challenging and a red hot field in the current scenario and has great importance in text categorization applications. A lot of research work has been done in this field but there is a need to categorize a collection of text documents into mutually exclusive categories by extracting the concepts or features using supervised learning paradigm and different classification algorithms. This project aims to Develop a concept based mining model for preserving the meaning of sentence using semantic net & synonym dictionary. The new concept definition can be expressed in the form of a triplet <subject, verb, object>.This triplet is the basic unit for the processing and preprocessing tasks. For increasing the performance, SVD (Singular Value Decomposition) is used.

Keywords: SVD, Concept, Categories, algorithms, clustering.

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29-34

Authors:	**Rohit Kulkarni, Raghvendra Singh, Piyush Mathur**
Paper Title:	**Saving Battery of Mobile Station & Response Time by Server with Compression**

Abstract: There are some mobile applications which receive the information from application servers by user generated queries. Processing the request on the mobile devices drain the mobile battery. On the other hand, processing user-queries at application servers causes increased response time because of the communication latency

7.	during transmission of the large size query. In this thesis work, to minimize battery drain as well as response time query processing on one mid network node (Relay Node) had done. Leasing processing power form mid network node may decrease battery usage on the mobile devices and response times, so that is totally depend on service provider how much it has to lease? The trade of processed data with response time, memory required & energy required is studied. The dynamic programming approach for the optimality to distribute the amount of query processing load on relay node is also used. Here I extended our work with the compression & encryption. LZ4-HC compression technique is used to minimize the size of data so that its processing is automatically decreased thereby it's obvious that there is further more save of battery. At mobile station compression is done. We do feature extraction at relay node as a part of query processing. Encryption is also applied to the extracted features for security purpose at relay node. On the other hand, at application server feature decryption has done with training & classification which are application level functions. **Keywords:** AES, Artificial Neural Network (ANN), Feature, Extraction, LZ4-HC. **References:** 1. Network Assisted Mobile Computing with Optimal Uplink Query Processing by Carri W. Chan, Member, IEEE, Nicholas Bambos, Member, IEEE, and Jatinder Singh, Member, IEEE, 2. Modular Audio Recognition Framework v.0.3.0.6 (0.3.0 final) and its Applications by the The MARF Research and Development Group. 3. Dynamic Programming and Optimal Control Volume I by Dimitri P. Bertsekas. 4. AES Algorithm Using 512 Bit Key Implementation for Secure Communication by Rahul Jeurkar & Shrikrishna Chopade. 5. Review of Feature Extraction Techniques in Automatic Speech Recognition by Shanthi Therese S., Chelpa Lingam. 6. The process of Feature Extraction in Automatic Speech Recognition System for Computer Machine Interaction with Humans: A Review Bhupinder Singh, Rupinder Kaur, Nidhi Devgun, Ramandeep Kaur.	**35-41**
8.	**Authors:**	**Purohit Megha, Raunak Jangid, Kapil Parikh, Ashish Maheswari**
	Paper Title:	**Flow Analysis of Transmission System Incorporating STATCOM**
	Abstract: In this modern age of technological development demand of the electrical energy is increasing where generation and transmission capacity is not increasing at same rate. This gives constraints on the power system. The erection of a new transmission line is not an easy task especially in the developing countries like India. So a power system engineer must try to use existing transmission lines up to their stability limits. Operating the lines near or above thermal stability limits makes system vulnerable to faults moreover it also increases the losses in the system. One way to increase the transmission capacity of the system without operating it to its thermal stability limit is to provide reactive power compensation at various locations. Reactive power compensation improves the voltage profile of the system, increase the power transfer in the lines and reduce losses. STATCOM is one such device that is used for reactive power compensation. It provides reactive power compensation thereby improving the voltage profile of the system.In this thesis reactive power compensation is attempted using STATCOM. To study its affect Load flow study is performed on IEEE 5 bus; IEEE 14 bus and IEEE 30 bus with and without STATCOM incorporated and the results are then compared to show the effect of STATCOM on the system. NEWTON RAPHSON method is used for the load flow study of the system. **Keywords:** STATCOM, FACTS, IEEE-5 bus, IEEE-14 bus,IEEE_30 bus. **References:** 1. K.R.Padiyar and A.M.Kulkarni, "FACTS- Flexible AC Transmission System: A Status Review", sadhna, Vol. 22, No. 6, December 1997, pp. 781-796. 2. Joseph Mutale and Goran Strbac, "Transmission Network Reinforcement versus FACTS: An Economic Assessment", IEEE Transaction on Power Systems, Vol. 15, No. 3, August 2000, pp. 961-967. 3. Diego Soto "Comparison of High-Power Converter Topologies for the Implementation of FACTS Controllers", IEEE Transactions on Industrial Electronics, Vol. 49, No. 5, October 2002, pp. 1072-1080. 4. Ying Xiao, Y.H.Song and Chen-Ching Liu, "Available Transfer Capability Enhancement Using FACTS Devices", IEEE Transactions On Power Systems, Vol. 18,No. 1, February 2003, pp. 305-312. 5. M. Sh. Misrikhanov, V.F.Sitnikov, and Yu.V.Sharov, "Modal Synthesis of Regulators for an Electrical Power System on the Basis of FACTS Devices", Russian Electrical Engineering, Vol. 78, No. 10, 2007, pp. 22-29. 6. M. Sh. Misrikhanov, V.F.Sitnikov, and Yu.V.Sharov, "Operation Coordination of FACTS Devices in Backbone Networks Based on Fuzzy Logic Methods", Russian Electrical Engineering, Vol. 79, No. 1, 2008, pp. 51–55. 7. Xia Jiang, Joe H. Chow, Abdel-Aty Edris, Bruce Fardanesh, and Edvina Uzunovic, "Transfer Path Stability Enhancement by Voltage-Sourced Converter-Based FACTS Controllers", IEEE Transactions on Power Delivery, Vol. 25, No. 2, April 2010, pp. 1019-1025. 8. K.N.Shubhanga and Anil Kulkarni, "Application of Structure Preserving Energy Margin Sensitivity to Determine the Effectiveness of Shunt and Series FACTS Devices", IEEE Transactions on Power Systems, Vol. 17, No. 3, August 2002, pp. 730-738. 9. Anju Meghwani and A.M.Kulkarni, "Development of a Laboratory Model of SSSC Using RTAI on Linux Platform", Sadhana, Vol. 33, Part 5, October 2008, pp. 643–661. 10. M. Kashki, M.A.Abido and Y.L.Abdel-Magid, "Pole Placement Approach for Robust Optimum Design of PSS and TCSC-Based Stabilizers Using Reinforcement Learning Automata", Electr Eng, January 2010, pp. 383-394. 11. Mahdi Ghazizadeh Ahsaee and Javad Sadeh, "A Novel Fault-Location Algorithm for Long Transmission Lines Compensated by Series FACTS Devices", IEEE Transactions on Power Delivery, Vol. 26, No. 4, October 2011, pp. 2299-2308. 12. Nan Jiang, Bin Liu, Jixin Kang, Yuanwei Jing and Tie Zhang, "The Design of Nonlinear Disturbance Attenuation Controller for TCSC Robust Model of Power System", Nonlinear Dyn, June 2011, pp. 1863-1870. 13. K.V.Patil, J. Senthil, J.Jiang and R.M.Mathur, "Application of Statcom for Damping Torsional Oscillations in Series Compensated AC Systems", IEEE Transactions on Energy Conversion, Vol. 13, No. 3, September 1998, pp. 237-243.	**42-51**
	Authors:	**Sajid Shaikh, Naser Shaikh**
	Paper Title:	**Fractal Traffic with Reference to Performance Analysis of Call Admission Control in Wireless Mobile Network**

9.	**Abstract:** Call admission control is a provisioning strategy to limit the number of call connections into the networks in order to reduce the network congestion and call dropping. In wireless networks, another dimension is added call connection dropping or simply call dropping is possible due to the user's mobility. A good CAC scheme has to balance the call blocking and call dropping in order to provide the desired QoS requirements. Limited and time-varying wireless resources, user mobility and various application requirements promote the development of adaptive techniques. Focusing on the cell specific mobility, I propose a target utility-based rather than call drop probability-based solution to address the QoS stability intra/inter cell and tradeoff between carried traffic and degradation. Prediction and compensation methods are used in the proposed scheme with little assumption of fractal traffic and user mobility mode. **Keywords:** About four key words or phrases in alphabetical order, separated by commas. Call admission control, fractal traffic, network. **References:** 1. William C. Y. Lee " Mobile Cellular Telecommunication, Analog and Digital Systems",1st and 2 nd edition McGraw Hill Book,Inc. 2. AndrewmS. Tanenbaum,"Computer Networks" Forth Edition, Pearsons Education. 3. Jochen Schiller, "Mobile Communications" Second Edition, Pearson Education. 4. Ajay R. Mishra "Fundamentals of Cellular Networking and Planning and Optimization 2G/2.5G/3G… Evolution to 4G" Wiley 5. Jun-Zhao Sun, "Mobile Ad Hoc Networking: An Essential Technology for Pervasive Computing". Packet Networks" Published in IEEE/ACM Transactions on Networking, February 1997. 6. Yi Zhang and Derong Liu, "An Adaptive Algorithm for Call Admission Control in Wireless Networks" 7. Taub and Schilling, "Principle of Communication Systems" McGraw Hill Book, Inc. Electrical and Electronics Engineering Services. 8. Peyton Z. Peebles, Jr., "Probability, Random Variables, and Random Signal Principles" McGraw Hill Book,Inc.	**52-54**
10.	**Authors:** **Fayas A** **Paper Title:** **Lifting Scheme Based Designing of Wavelets in Spiral Addressing Model on a Hexagonal Grid** **Abstract:** Image processing in hexagonal grid is very much advantageous than in the conventional rectangular grid. The advantages include higher angular resolution, consistent connectivity and higher sampling efficiency. A wide class of operations on images can be performed directly in the wavelet domain by operating on its coefficients of the images. Operating in wavelet domain enables to operate on different resolutions, manipulate features at different scales and localize the operation in both spatial and frequency domains. A new method of designing hexagonal wavelets using lifting scheme in the spiral addressing scheme is proposed in this thesis. It is computationally efficient because they are not based on Fourier transforms, and could be performed in place. **Keywords:** Wavelets, lifting scheme, spiral addressing, hexagonal grid. **References:** 1. Golay, M., "Hexagonal parallel pattern transformation". IEEE Transactions on computers, 18(8),pp. 733-740, September,1969. 2. Mersereau, R.M., "The processing of Hexagonally Sampled Two-Dimensional Signals". Proceedings of the IEEE, 67, pp. 930-949, 1979. 3. Frédéric Chazal, David Cohen-Steiner, André Lieutier, "A sampling theory for compact sets in Euclidean space". Proceedings of the twenty-second annual symposium on Computational geometry SCG '06, ACM. 4. Vitulli, R., "Aliasing effects mitigation by optimized sampling grids and impact on image acquisition chains". Geosciences and Remote Sensing Symposium, 2002. IGARSS '02. 2002 IEEE International, pp. 979-981 vol.2,2002. 5. W. Sweldens, "The Lifting Scheme: A Construction of Second Generation Wavelets," SIAM J. Math. Analysis, vol. 29, no. 2, pp. 511-546, 1997. 6. I. Daubechies and W. Sweldens, "Factoring Wavelet Transforms into Lifting Steps," J. Fourier Analysis Applications, vol. 4, no. 3, pp. 245-267, 1998. 7. R. Calderbank, I. Daubechies, W. Sweldens, and B.-L. Yeo, "Wavelet Transforms that Map Integers to Integers," Applied and Computational Harmonic Analysis, vol. 5, no. 3, pp. 332-369, 1998. 8. Lee Middleton and Jayanthi Sivaswamy, "Hexagonal Image Processing – A Practical Approach", Springer-Verlag London Limited, 2005. 9. I. Daubechies and W. Sweldens, "Factoring Wavelet Transforms into Lifting Steps," J. Fourier Analysis Applications, vol. 4, no. 3, pp. 245-267, 1998. 10. R. Calderbank, I. Daubechies, W. Sweldens, and B.-L. Yeo, "Wavelet Transforms that Map Integers to Integers," Applied and Computational Harmonic Analysis, vol. 5, no. 3, pp. 332-369, 1998. 11. N. P. Hartman and S. L. Tanimoto, "A Hexagonal Pyramid data structure for Image Processing", IEEE Transactions on Systems, Man, and Cybernetics, SMC- 14(2):247–256, Mar/Apr 1984. 12. A.F.Laine,S.Schuler, W.Huda, and J.C. Honeyman, "Hexagonal wavelet processing of digital mammography", Proceedings of SPIE, vol.1898, pp.559-573,1993.	**55-60**
11.	**Authors:** **Prabha R, Shivaraj Karki, Manjula S. H, K. R. Venugopal, L. M. Patnaik** **Paper Title:** **Quality of Service for Differentiated Traffic using Multipath in Wireless Sensor Networks** **Abstract:** Providing Quality of Service in wireless sensor networks refers to a set of service requirements to be satisfied when transmitting a packet from source to destination. The main challenge involved in quality of service based data transmission is to select the efficient path from source to destination. Quality of service in wireless sensor networks is an important factor. The two most important parameters that hinder the goal of guaranteed event perception are time-sensitive and reliable delivery of gathered information, while minimum energy consumption is desired. In this paper, a multi-traffic, multi-path and energy aware data transmission mechanism is proposed for improving Quality of Service in Wireless Sensor Networks. The simulation results demonstrate that, the algorithms efficiently improve quality of reception ratio, satisfying the required quality of service metrics. **Keywords:** Differentiated Traffic, End-to-End Delay, Energy, Reliability, Wireless Sensor Networks. **References:** 1. DjamelDjenouri and IllangkoBalasingham, "Traffic Differentiation-Based Modular QoS Localized Routing for Wireless Sensor Networks",	**61-66**

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