International Journal of Recent Technology and Engineering

ISSN : 2277 - 3878
Website: www.ijrte.org
Volume-7 Issue-5S4, FEBRUARY 2019
Published by:
Blue Eyes Intelligence Engineering and Sciences Publication

Dr. Hugo A.F.A. Santos
ICES, Institute for Computational Engineering and Sciences, The University of Texas, Austin, USA.

Dr. Sunandan Bhunia
Associate Professor & Head, Department of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia (Bengal), India.

Dr. Awatif Mohammed Ali Elsiddieg
Assistant Professor, Department of Mathematics, Faculty of Science and Humatarian Studies, Elnielain University, Khartoum Sudan, Saudi Arabia.

Technical Program Committee Chair

Dr. Mohd. Nazri Ismail
Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia.

Technical Program Committee Members

Dr. Haw Su Cheng
Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia (Cyberjaya), Malaysia.

Dr. Hasan. A. M Al Dabbas
Chairperson, Vice Dean Faculty of Engineering, Department of Mechanical Engineering, Philadelphia University, Amman, Jordan.

Dr. Gabil Adilov
Professor, Department of Mathematics, Akdeniz University, Konyaaltı/Antalya, Turkey.

Dr. Ch.V. Raghavendran
Professor, Department of Computer Science & Engineering, Ideal College of Arts and Sciences Kakinada (Andhra Pradesh), India.

Dr. Thanhtrung Dang
Associate Professor & Vice-Dean, Department of Vehicle and Energy Engineeering, HCMC University of Technology and Education, Hochiminh, Vietnam.

Dr. Wilson Udo Udofia
Associate Professor, Department of Technical Education, State College of Education, Afaha Nsit, Akwa Ibom, Nigeria.

Convener Chair

Mr. Jitendra Kumar Sen
Blue Eyes Intelligence Engineering & Sciences Publication, Bhopal (M.P.), India

Editorial Chair

Dr. Sameh Ghanem Salem Zaghloul
Department of Radar, Military Technical College, Cairo Governorate, Egypt.

Editorial Members

Dr. Uma Shanker
Professor, Department of Mathematics, Muzafferpur Institute of Technology, Muzafferpur(Bihar), India

Dr. Rama Shanker
Professor & Head, Department of Statistics, Eritrea Institute of Technology, Asmara, Eritrea

Dr. Vinita Kumar
Department of Physics, Dr. D. Ram D A V Public School, Danapur, Patna(Bihar), India

Dr. Brijesh Singh

Senior Yoga Expert and Head, Department of Yoga, Samutakarsha Academy of Yoga, Music & Holistic Living, Prahladnagar, Ahmedabad (Gujarat), India.

1.

Authors: Deepika Kancherla, Jyostna Devi Bodapati, Veeranjaneyulu N

Paper Title: Effect of Different Kernels on the Performance of an SVM Based Classification

Abstract: According to the literature Support Vector Machines (SVM) is one of the robust classification models which guarantees reasonable per-formance even with small training datasets. Though the deep learning models are able to produce the state of the art performance large volumes of training data is required to achieve that. SVMs are basically designed to be binary classifiers and can be extended to multiple classes that are very common in many real world applications. In this paper we are trying to prove that generalization ability of support vector machines (SVM's) is good on difficult real world problems. We also try to analyze the effect of different features and different types of kernels on their performance. For the illustrations we have used different types of features like gist, HOG, histogram. In this work we show how the types of features extracted from the data can affect the performance of the classifier. The original version of SVMs is designed for linear classification tasks which can be applied to non-linear classification by projecting the data into a non-linear space using kernel trick. In this paper we even try to analyze the effect of kernels like linear, polynomial, Gaussian, sigmoidal and user defined kernels and how the type of kernel effect the performance of the support vector machine based classification task. Based on the studies we have conducted, it is observed that type of features and type of kernels used have a great impact on the performance of an SVM based classification task. Type of the features we can use is solely dependent on the problem on hand. On the other side impact of the kernel is dependent on the data set. Our Studies show that RBF kernel and histogram intersection kernel leads to better performance than others.

Keywords: Histogram Intersection Kernel; Kernel trick; SVM; Types of Kernels; User-defined kernels

References:
1. Shil, SK.et al., "An improved brain tumor detection and classification mechanism", In proceedings of IEEE conference on
2. Information and Communication Technology Convergence (ICTC), 2017.
3. Zhang et al, "A novel method for magnetic resonance brain image classification based on adaptive chaotic PSO", Progress In Electromagnetics Research 109 (2010): 325-343.
4. Islam et al, "A new hybrid approach for brain tumor classification using BWT-KSVM", In Proceedings of Advances in Electrical Engineering, 2017.
5. Jyostna Devi Bodapati et al, "A novel face recognition system based on combining eigenfaces with fisher faces using wavelets", Procedia Computer Science2 (2010): 44-51.
6. Jyostna devi Bodapati et al, "SCENE CLASSIFICATION USING SUPPORT VECTOR MACHINES WITH LDA",
7. Journal of Theoretical & Applied Information Technology. 2014 May 31;63(3).
8. Harris, Samuel, et al. "LBP features for hand-held ground penetrating radar." Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXII. Vol. 10182. International Society for Optics and Photonics, 2017.
9. Pradhan, Debasish "Enhancing LBP Features for Object Recognition using Spatial Pyramid Kernel." (2017).
10. Jyostna devi Bodapati et al, "An intelligent authentication system using wavelet fusion of K-PCA, R-LDA", IEEE International Conference on Communication Control and Computing Technologies (ICCCCT), 437-441, 2010,

2.

Authors: Devendra Reddy Rachapalli1, Hemantha Kumar Kalluri

Paper Title: Multimodal Biometric Template Protection Using ColorQR Code

Abstract: Several cancelable biometric cryptosystems have been proposed to give security and protection to the biometric data. Even though these- techniques provide security from pre-image attacks and template protection. Developing innovative and highly robust cancelable biometric cryptosystems are vital. This paper proposes a novel cancelable biometric cryptosystem for template protection using color QR code. The proposed biometric cryptosystem is key generation based and registration free feature based multimodal biometric template of cancelable biometric method and works with conventional matcher. The proposed system has realized the properties of cancelable biometrics – revocability, diversity, non-invertible biometric encryption and pre-image attack resistant.

Keywords: cancelable biometrics; biometric cryptosystems; color QR code; revocability, pre-image attack; non-invertible.

References:
1. Ramalho MB, Correia PL &Soares LD, "Hand-based multimodal identification system with secure biometric template storage", IET Computer Vision, Vol.6, No.3, (2012), pp.165-173.
2. PeterWild,HeinzHofbauer,James Ferryman&Andreas Uhl,"Quality-based iris segmentation-level fusion", EURASIP Journal on Information Security, Vol.2016, No.25, (2016).
3. Vishal M. Patel, Nalini K. Ratha, & Rama Chellappa, "Cancelable Biometrics: A review", IEEE Signal Processing Magazine, Vol.32, No.5, (2015), pp.54-65.
4. Sandhya Mulagala & Prasad V.N.K. Munaga, "Securing fingerprint template using fused structures", IET Biometrics, Vol.6, No.3, (2017), pp.173-182.
5. Harkeerat Kaur &Pritee Khanna, "Random Distance Method for Generating Unimodal and Multimodal Cancelable Biometric Features", IEEE Transactions on Information Forensics and Security, Vol.14, No.3, (2018), pp.709-719.
6. Rathgeb C, &Uhl A, "A survey on biometric cryptosystems and cancelable biometrics", EURASIP Journal on Information Security, Vol.3, No.1, (2011). pp.1-25.
7. Gomez-Barrero M, Galbally J, Morales A, &Fierrez J, "Privacy-preserving comparison of variable-length data with application to biometric template protection", IEEE Access, Vol.5, (2017), pp.8606-8619.
8. Devendra Reddy Rachapalli, Hemantha Kumar Kalluri, "A survey on biometrie template protection using cancelable biometric scheme", 2nd International Conference on Electrical, Computer and Communication Technologies (ICECCT), (2017), pp.1-4.
9. Cheniti M, Boukezzoula NE, & Akhtar Z, "Symmetric sum-based biometric score fusion", IET Biometrics, Vol.7, No.5, (2018), pp.391-395.
10. ISO/IEC 18004:2015(E) International Standard, "Information Technology – Automatic Identification and data capture techniques – QR Code bar code symbology specification", ISO/IEC Switzerland, (2015).
11. Rathgeb C, Breitinger F & Busch C, "Alignment-free cancelable iris biometric templates based on adaptive bloom filters", 2013 International

Conference on Biometrics, (2013).
12. Dang TK, Truong QC, Le TTB, & Truong H, "Cancellable fuzzy vault with periodic transformation for biometric template protection", IET Biometrics, Vol.5, No.3, (2016), pp.229-235.
13. EdliraMartiri, Marta Gomez-Barrero, Bian Yang &Christoph Busch, "Biometric template protection based on Bloom filters and honey templates", IET Biometrics, Vol.6, No.1, (2016), pp.19-26.
14. Mayada Tarek, Osama Ouda&Taher Hamza, "Robust Cancelable biometric scheme based on neural networks", IET Biometrics, Vol.5, No.3, (2016), pp.220-228.
15. Karthi G, &Ezhilarasan M, "Multi biometric Template Protection using Hybrid Technique", International Journal of Engineering & Technology, Vol.7, No.4, (2018), pp.2609-2613.
16. Devendra Reddy Rachapalli, Hemantha Kumar Kalluri, "Texture driven hierarchical fusion for multi-biometric system", International Journal of Engineering & Technology, Vol.7, No.4.24, (2018), pp.33-37.

3.

Authors: **Madhu Babu Chevuru, Ananya Kalyanam, Dr.P.Victer Paul**

Paper Title: **Energy Efficient Routing Model Using Distributed Spanning Tree forWSN**

Abstract: Wireless Sensor Networks (WSNs) are spatially distributed network with sensors to observe the environment. WSNs are used in several fields, such as e-health military, manufacturing, etc., One of the vital issues in WSN is an energy efficient routing protocol which significantly affects the general lifetime of the sensor network. Routing assumes a pivotal part in expanding the energy efficiency of a WSN. In the proposed framework, | am utilizing the Distributed Spanning Tree which characterizes every hub as the foundation of a spanning tree. DST will influence the associate to arrange into a layered structure to enhance the successful routing and information accessibility. For any correspondence procedure on a peer network, the extensive number of message pass required on the grounds that the message may experiment a hub numerous circumstances. Keeping in mind the quantity of paging message required for successful correspondence in any peer system, we take after an interconnected structure called DST. In this paper, we propose a strategy to detail DST in peer organize and decided productivity change utilizing DST.

Index Terms: Wireless Sensor Network, Routing, Energy efficiency, Distributed Spanning Tree

References:

1. Payal Khorana Batra, Krishna Kant, An Energy Efficient GA based Routing Algonthm for Two-tier Sensor Networks Jaypee Institute of Information Technology, Noida, India, 2016 IEEE.
2. Kartik Chawda and Deepmala Gorana, A survey of Energy Efficient Routing Protocol in MANET, Parul Institute of Engineering and Technology, Vadodara, Gujarat, 2015 IEEE, pp.953-957,.
3. Siddhant dodkc. P. B. Mane. M.S. Vanjalc. A survey on energy efficient routing protocol for Manet.A.I.S.S.M.S. Institute of Information Technology. Pune. India. 978-1-5090-2399-8!16331.00 2016 IEEE. 1313.160-164.
4. Saclii N. Shah and Rutvij H. lliaveri A Survey of Various Energy Efficient Secure RoutingApproaches forWireless Adhoc Networks. SVM Institute oftechnology SVM Institute of technology Bharuch 392-001. Gujarat.India. 928-14673-2910-61']51"33100c 2015 ILEIS. pp. 1424-1429.
5. Muhammad Zain-ul-Ahid in. Muhammad. Hammad Maqsood.Improved genetic algorithm based energy etficientrouting in two-tiered wireless sensornetu-'orks. ICOMSATS Institute ol'lnformationTechnology. Islamabad.44000.Pakistan.2l5?- 0426.
6. Nagendra Sah. Performance Evaluation of Energy Efficient Routing in Wireless Sensor Networks. PECUniversity of'l'cchnology.Chandigarh. UT. India. 9784-5090-4620]!16r'2016 IEIEE. pp.1048-]053.
7. Indrajit Baneijee. Prasenjit Chanak. Biplab Kumar Sikdar. I'lafizur Rahaman. Energy Efficient Routing inWireless Sensor Networks. Bengal Engineering and Science University. Shibpur. Howrah. India. 978- 1-4244-8943
8. P. Victer Paul. N. Saravanan. S.K.V. Jayakumar. P. Dhavaclielvan and R. Baskaran. QoS enhancements forglobal replication management in peer to peer networks. Future Generation Computer Systems. Elsevier. Volume28. Issue3. March 2012. Pages 523582. ISSN: 0167-739X.
9. P. Victer Paul. D. Rajaguru. N. Saravanan. R. Baskaran and P. Dhavachelvan. Efficient service cachemanagement in mobile PZP networks. Future Generation Computer Systems. Elsevier. Volume 29. Issue 6. August2013. Pages 15051521. ISSN: 0162-739X.
10. S. Sangavi. A. Van mathi. R. Gayatliri. R. Raju. P. Victer Paul. P. DhavachelvanAn Enhanced DACHE Modelfor thc MapReduce Environment. Procedia Computer Science. Elsevier. Volume 50. 2015. Pages 579-584. ISSN1823-0509.

12-16

4.

Authors: **S Deva Kumar, Dr. Gnaneswara Rao Nitta**

Paper Title: **Early Detection of Diabetic Retinopathy in Fundus Images Using GLCM And SVM**

Abstract: Diabetes enhances the risk of destruction of blood vessels that pumps blood vessels that pumps blood to the retina an aliment known as Diabetic Retinopathy (DR). In diabetic retinopathy appearing of Microaneurysms is the first clinical sign. Hence, identification of Microaneurysms becomes a major problem solving task, in which fundus images plays a very important role. If this is detected in early stage, it is very much useful to the ophthalmologist to treat the patients in avoiding the blindness of the patients by their treatment. In this paper, we are proposing an automatic method for detection of Microaneurysms from Diabetic Retinopathy fundus photographs. For detecting simple and efficient methods are used. The methods are Pre-processing using CLAHE (Contrast Limited Adaptive Histogram Equalization), Blood Vessels (BV) extraction by using Kirsch's operator followed by feature extraction using Gray Level Co-occurrence Matrix (GLCM) detection of MAs and Classification using SVM. On evaluating the results, the proposed method got better performance than the existing method.

Keywords: diabetic retinopathy, microaneurysms, glcm, svm classifier.

References:

1. C. Sinthanayothin, JF. Boyce, TH. Williamson, HL. Cook, E. Mensah, S. Lal. Automated detection of diabetic retinopathy on digital fundus images. Diabetic MED Vol.19, pp.105–12, 2002.
2. M. Niemeijer, B. Van Ginneken, J. Staal, Suttorp-Schulten MSA, Abramoff MD. Automatic detection of red lesions in digital color fundus photographs. IEEE Trans MED Imaging Vol.24, pp.584–92, 2005.
3. Aimmanee P, Uyyanonvara B, Jitpakdee P. A survey on hemorrhage detection in diabetic retinopathy retinal images. In: Proceedings of the ninth international conference on Electrical Engineering, Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), pp.1–4, 2012.
4. Quellec G, Lamard M, Josselin PM, Cazuguel G, Cochener B, Roux C. Optimalwavelet transform for the detection of microaneurysms in retina photographs. IEEE Trans MED Imaging Vol. 27(9), pp.1230–41, 2008.
5. Esmaeili M, Rabbani H, Dehnavi AM, Dehghani A. New curvelet transform based method for extraction of red lesions in digital color retinal images. In: Proceedings of the 17th international conference on image processing. pp.4093–6, 2010.
6. Bae JP, Kim KG, Kang HC, Jeong CB, Park KH, Hwang JM. A study on hemorrhage detection using a hybrid method in fundus images. J Digit Imaging. Vol.24, pp.394-404, 2011.

17-20

7. Lazar I, Hajdu A. Retinal microaneurysm detection through local rotating cross section profile analysis. IEEE Trans Med Imaging. Vol.32, pp. 400-7, 2012.
8. Sopharak A, Uyyanonvara B, Barman S. Simple hybrid method for fine microaneurysm detection from non-dilated diabetic retinopathy retinal images. Compute Med Imaging Graph.Vol.37, pp.394-402, 2013.
9. Adal KM, Sidibé D, Ali S, Chaum E, Karnowski TP, Mériaudeau F. Automate detection of microaneurysms using scale-adapted blob analysis and semi-supervised learning. Compute Methods Programs Biomed. Vol.114, pp.1-10, 2014.
10. Antal B, Hajdu A. Improving microaneurysm detection in color fundus images by using context-aware approaches. Compute MED Imaging Graph. Vol.37, pp.403-8, 2013;37.
11. N Gnaneswara Rao, V Ramakrishna Sajja, S Deva Kumar and M Venkata Rao, "An Improved IHBM using Smoothing Projections", International Journal of Control Theory and Applications, 2015, Vol.8, Iss 1, pp. 326-335.
12. Madhura Jagannath Paranjpe, Prof. M N Kakatkar, "Automated Diabetic Retinopathy Severity Classification using Support Vector Machine", IJRSAT, Vol 3, Pg. 086-091, 2013.
13. Malihe Javidi, Hamid-Reza Pourreza, Ahad Harati, "Vessel segmentation and microaneurysm detection using discriminative dictionary learning and sparse representation", International Journal of Computer Methods and Programs in Biomedicine, 2016.
14. Priya.R, Aruna.P, "Diagnosis of Diabetic Retinopathy using Machine Learning Techniques", ICTACT, Vol 03, July 2013.
15. Madhura Jagannath Paranjpe, Prof. M N Kakatkar, "Automated Diabetic Retinopathy Severity Classification using Support Vector Machine", IJRSAT, Vol 3, Pg. 086-091, 2013.

	Authors:	**Fathimabi Shaik**
	Paper Title:	**Distributed Graph Indexing and Query Processing Using Map-Reduce**

Abstract: In recent times, we are observing that the of the size of the graph data is increasing and we cannot able to process by using a single machine in less time. In a distributed environment many users are giving the graph queries to get required data from large graph database. It becomes hard to get relevant graph data from a huge graph database. This paper address the issue of processing hundreds of query graphs from a huge graph database using distributed computing framework like Map-Reduce. We design a method to solve the problem of multiple graph query processing using inverted edge index and index maintenance. We develop a DIstributed Graph Indexing and Multiple Graph Query Processing Algorithm called DIGIMAP. DIGIMAP uses Replicated Join technique of Map-Reduce to filter the graphs and to do index maintenance. We did experiments using real-world graph datasets shows this approach improves the performance and quick processing of multiple graph queries over big dataset of graphs.

Keywords: graph query; graph database; big data; parallel processing; Map-Reduce; distributed graph query processing; Join technique

5.

References:

1. Aggarwal, C.C., Wang, H(eds): Managing and Mining graph data. Kluwer Academic Publishers, Dordrecht (2010)
2. Mansurul A Bhuiyan, Mohammad AI Hasan : MIRAGE An Iter- ative Map Reduce based Frequent Subgraph Mining Algorithm 2013.
3. M. Kuramochi and G. Karypis, Finding frequent patterns in a large sparse graph*, Data mining and knowledge discovery, vol. 11, no. 3, pp. 243271, 2005
4. X. Yan and J. Han.,"gSpan: Graph-Based Substructure Pattern Mining",Proc. 2002 of Int. Conf. on Data Mining (ICDM'02).
5. Giugno, R., Shasha, D: Graph Grep: A Fast and Universal Method for Querying Graphs. Proceedings of ICPR 2, 112-115 (2002)
6. Yan,X.,Yu,P.,Han, J.: Graph Indexing Based on Discriminative Frequent Structure Analysis. ACM Tranasactions on Database Systems 30(4),960-993(2005)
7. Cheng, J., Ke, Y., Ng, W., Lu,.: FG-Index: towards verification- free query processing on graph databases in: Proceedings of ICDE (2007)
8. He,H.,Singh, A.K.: Closure-Tree.: An Index Structure for Graph Queries. In Graphs, Proceedings of ICDE (2006)
9. Haoliang Jiang ; Haixun Wang ; Yu, P.S. Shuigeng Zhou, :GString: A Novel Approach for Efficient Search in Graph Databases Proceedings of ICDE (2007)
10. Song-Hyon Kim, Kyong-Ha Lee, Hyebong Choi and Yoon- Joon Lee, Parallel Processing of Multiple Graph Queries Using Map-Reduce,DBKDA,2013
11. Willet, P.: Chemical similarity searching. J.Chem. Info. Comput. Sci. 38,983-996(1998)
12. Dean, J., Ghemawat, S.: Map-Reduce: Simplified data processing on large cluster. In: Proceedings of OSDI, pp 137-150(2004)
13. James Cheng, Yiping Ke, Ada Wai-chee Fu, Jeffrey Xu Yu: Fast Graph Query Processing with a Low-Cost Index.VLDB 2011.
14. Yifeng Luo,Jihng Gun nd Shugeng Zhou, Towards Efficient SubgraphSearch in Cloud Computing Environments. Spinger- verlag Berlin Heidelberg 2011.
15. G. Malewicz, M. Austern, A. Bik, J. Dehnert, I. Horn,N. Leiser, and G. Czajkowski, Pregel: a system for large-scale graph processing, in Proceedings of the 2010 interna- tional conference on Management of data. ACM, 2010, pp.135146.
16. U. Kang, C. Tsourakakis, and C. Faloutsos, Pegasus: mining peta-scale graphs, Knowledge and information systems, vol. 27, no. 2, pp. 303325, 2011.
17. S. Ghemawat, H.Gobioff, S.T.Leung. The Google File System, in:proceedings of the 19th ACM Symposium on Operating Systems Principles, vol.37 of SOSP '03, ACM, New York, USA, 2003.
18. S. Blanas, J. Patel, V. Ercegovac, J. Rao, E. Shekita, and Y. Tian, A comparison of join algorithms for log processing in Map-Reduce, in Proceedings of the 2010 international conference on Management of data. ACM, 2010, pp. 975986.
19. F. N. Afrati, D. Fotakis, and J. D. Ullman. Enumerating sub- graph instances using map-reduce. In ICDE, pages 6273, 2013
20. Hadoop. http://hadoop.apache.org.
21. Nci. http://cactus.nci.nih.gov/download/nci.
22. Pubchem. http://pubchem.ncbi.nlm.nih.gov.
23. Jimmy Lin and Chris Dyer: Data-Intensive Text Processing with Map-Reduce, 2010

21-29

	Authors:	**Vishnu Kumar, Ajeet Kumar Verma, Rajesh Dwivedi, Ebenezer Jangam**
	Paper Title:	**Novel Learning Rule Based On Exponential Integrate and Fire Neuron Model**

Abstract: Classification is a technique to deal with supervised learning of Artificial Neural Networks. In recent years, many methods are developed for classification. Conventional neurons are less efficient in classification accuracy. Spiking neuron is third generation neuron. Spiking neuron models are generating highly computationally accurate firing patterns of spikes. These spikes are using to process the information in human brain. So a novel learning rule is proposed for an Exponential Integrate and Fire Neuron Model. This model is used for Malaria disease prediction. We have collected dataset for malaria from govt. ID hospital, Goa. By using proposed classifier, we have obtained increased accuracy in classification of the data. Our classification results are better when compared with legacy model and Biological Neuron Model.

Keywords: IFN, MLP, EIFN, FFNN, H-H, QIFN, Learning rule LEIFN.

6.

30-34

References:
1. Brette, Romain, and Wulfram Gerstner. "Adaptive exponential integrate-and-fire model as an effective description of neuronal activity." Journal of neurophysiology 94, no. 5 (2005): 3637-3642.
2. Buscema, Massimo. "Back propagation neural networks." Substance use & misuse 33, no. 2 (1998): 233-270.
3. Izhikevich, Eugene M. "Simple model of spiking neurons." IEEE Transactions on neural networks 14, no. 6 (2003): 1569-1572.
4. Yadav, Abhishek, Deepak Mishra, R. N. Yadav, Sudipta Ray, and Prem K. Kalra. "Learning with single integrate-and-fire neuron." In Neural Networks, 2005. IJCNN'05. Proceedings. 2005 IEEE International Joint Conference on, vol. 4, pp. 2156-2161. IEEE, 2005.
5. Mishra, Deepak, Abhishek Yadav, and Prem K. Kalra. "Learning with single quadratic integrate-and-fire neuron." In International Symposium on Neural Networks, pp. 424-429. Springer, Berlin, Heidelberg, 2006.
6. Naud, Richard, Nicolas Marcille, Claudia Clopath, and Wulfram Gerstner. "Firing patterns in the adaptive exponential integrate-and-fire model." Biological cybernetics 99, no. 4-5 (2008): 335.
7. Barranca, Victor J., Daniel C. Johnson, Jennifer L. Moyher, Joshua P. Sauppe, Maxim S. Shkarayev, Gregor Kovačič, and David Cai. "Dynamics of the exponential integrate-and-fire model with slow currents and adaptation." Journal of computational neuroscience 37, no. 1 (2014): 161-180
8. Hertäg, Loreen, Joachim Hass, Tatiana Golovko, and Daniel Durstewitz. "An approximation to the adaptive exponential integrate-and-fire neuron model allows fast and predictive fitting to physiological data." Frontiers in computational neuroscience 6 (2012): 62.
9. Liu, Ying-Hui, and Xiao-Jing Wang. "Spike-frequency adaptation of a generalized leaky integrate-and-fire model neuron." Journal of computational neuroscience 10, no. 1 (2001): 25-45.
10. Lippmann, Richard P. "Pattern classification using neural networks." IEEE communications magazine 27, no. 11 (1989): 47-50.
11. X. S. Yang and X. He, "Bat algorithm: literature review and applications", International Journal of Bio-Inspired Computation, 5(3), 141–149, 2013.
12. A. H. Gandomi and A. H. Alavi, "Krill herd: a new bio-inspired optimization algorithm", Communications in Nonlinear Science and Numerical Simulation, 17(12), 4831–4845, 2012
13. L. Y. Chuang, H. W. Chang, C. J. Tu and C. H. Yang, "Improved binary pso for feature selection using gene expression data", Computational Biology and Chemistry, 32(1), 29–38, 2008.
14. D. Rodrigues, L. A. M. Pereira, R. Y. M. Nakamura, K. A. P. Costa, X. S. Yang, A. N. Souza and J. P. Papa, "A wrapper approach for feature selection based on bat algorithm and optimum path forest", Expert Systems with Applications, 41(5), 2250–2258, 2014.
15. J. Feng and G. Li, "Integrate-and-fire and Hodgkin Huxley models with current inputs", Journal of Physics A: Mathematical and General, 34(8), 1649, 2001.

Authors:	**Rajesh Dwivedi, Rahul Kumar, Ebenezer Jangam, Vishnu Kumar**	
Paper Title:	**An Ant Colony Optimization Based Feature Selection For Data Classification**	

Abstract: Feature selection is important process in the task of classification and clustering when the large number of feature gets extracted. In feature selection for n number of feature there are 2n feature subsets means every feature have two possibilities first possible is that particular feature would be selected for classification and other is would not be selected for classification. So finding a relevant feature subset in appropriate time is a NP-Hard problem. To avoid this problem, the approximation algorithm is used that gives the near optimal solution are four types including filter, wrapper, embedded and hybrid techniques. Many of the swarm intelligent algorithms that simulate the social behaviour of living beings are used as feature selection algorithms. The proposed method using the one of the swarm intelligent algorithm for feature selection based on ant colony optimization. This algorithm is combined with the Support vector machine classifierfor selecting the more appropriate and useful features.

Keywords: Feature Selection, Ant Colony Optimization, Data Classification

7. **35-40**

References:
1. M. Dash, K. Choi, P. Scheuermann, and H. Liu, "Feature selection for clustering-a filter solution," in Data Mining, 2002. ICDM 2003. Proceedings. 2002 IEEE International Conference on, 2002, pp. 115–122.
2. C. M. Lewandowski, N. Co-investigator, and C. M. Lewandowski, "Correlation-based Feature Selection for Discrete and Numeric Class Machine Learning," Eff. Br. mindfulness Interv. acute pain Exp. An Exam. Individ. Differ., vol. 1, pp. 1689–1699, 2015.
3. H. Liu and R. Setiono, "A probabilistic approach to feature selection - a filter solution," Proc 13th Int. Conf. Mach. Learn., vol. 96, pp. 319–327, 1996.
4. L. Yu and H. Liu, "Feature Selection for High-Dimensional Data: A Fast Correlation-Based Filter Solution," Int. Conf. Mach. Learn., pp. 1–8, 2003.
5. E. R. Hruschka and T. F. Covoes, "Feature Selection for Cluster Analysis: an Approach Based on the Simplified Silhouette Criterion," Int. Conf. Comput. Intell. Model. Control Autom. Int. Conf. Intell. Agents, Web Technol. Internet Commer., pp. 32–38, 2005.
6. D. Karaboga and C. Ozturk, "Neural networks training by artificial bee colony algorithm on pattern classification," Neural Netw. World, vol. 19, no. 3, pp. 279–292, 2009.
7. R. Kohavi and G. H. John, "Wrappers for feature subset selection," Artif. Intell., vol. 97, no. 1–2, pp. 273–324, 1997.
8. B. Xue, M. J. Zhang, and W. N. Browne, "Particle swarm optimization for feature selection in classification: a multi-objective approach," IEEE Trans. Cybern., vol. 43, no. 6, pp. 1656–71, 2013.
9. Song.M.H., LeeJ, Cho.S.P., Lee.K.1 and Yoo.S.K (2005), 'Support vector machine Based Arrhythmia classification using reduced Features', International Journal of control, Automation, and Systems, Vol 3, pp.571-579
10. S.-W. Lin, Z.-J. Lee, S.-C. Chen, and T.-Y. Tseng, "Parameter determination of support vector machine and feature selection using simulated annealing approach," Appl. Soft Comput., vol. 8, no. 4, pp. 1505–1512, 2008.
11. M. Gütlein, E. Frank, M. Hall, and A. Karwath, "Large-scale attribute selection using wrappers," in 2009 IEEE Symposium on Computational Intelligence and Data Mining, CIDM 2009 - Proceedings, 2009, pp. 332–339.
12. M. Esseghir, "Effective wrapper-filter hybridization through grasp schemata," MLR Work. Conf. Proc, vol. 10, no. i, pp. 45–54, 2010.
13. A. Unler, A. Murat, and R. B. Chinnam, "Mr2PSO: A maximum relevance minimum redundancy feature selection method based on swarm intelligence for support vector machine classification," Inf. Sci. (Ny)., vol. 181, no. 20, pp. 4625–4641, 2011.
14. Swati S. and Ashok G. (2013), 'Feature selectionfor medical diagnosis: Evaluation for cardiovascular diseases', Expert Systems with applications 40, pp.4146-4I53.
15. ThanananPravit.,AnanBanharnsakun.,BoonsermKaewkamnerdpong. andTiraneeAchalakul. (2013), 'Reducing bioinfomatics data dimension with ABC-KNN', Neurocomputing 116, pp367-381.
16. J. Nahar, T. Imam, K. S. Tickle, and Y.-P. P. Chen, "Computational intelligence for heart disease diagnosis: A medical knowledge driven approach," Expert Syst. Appl., vol. 40, no. 1, pp. 96–104, 2013.
17. Nguyen, H.V. and Bai, L., 2010, November. Cosine similarity metric learning for face verification. In Asian conference on computer vision (pp. 709-720). Springer, Berlin, Heidelberg.
18. Dua, D. and KarraTaniskidou, E. (2017). UCI Machine Learning Repository [http://archive.ics.uci.edu/ml]. Irvine, CA: University of California, School of Information and Computer Science.
19. Duan, K.B. and Keerthi, S.S., 2005, June. Which is the best multiclass SVM method? An empirical study. In International workshop on multiple classifier systems (pp. 278-285). Springer, Berlin, Heidelberg.

8.	**Authors:**	**Ch Venkata RamiReddy, U. Srinivasulu Reddy, D Mahesh Babu**

	Paper Title:	**An automatic driver drowsiness detection system using DWT and RBFNN**	
	Abstract: In this work an application to recognize sleep using computer vision techniques was developed. Here an automatic approach was developed for Driver drowsiness detectionfrom low-resolution images. A method is developed to attain high accuracy with fewer training samples. To detect the face and extract the eye region from the face images, Viola-Jones face detection algorithm was used. DWT was used for extracting the features from the eye region of images. Radial basis function neural network (RBFNN) was used as a classifier to detect the sleeping and non-sleeping images from the testing images. The proposed method was evaluated on our created dataset and exhibited 95.4% accuracy. **Keywords:** DWT, RBFNN, Viola–Jones **References:** 1. Amodio, Alessandro & Ermidoro, Michele & Maggi, Davide & Formentin, Simone & Matteo Savaresi, Sergio. (2018). "Automatic Detection of Driver Impairment Based on Pupillary Light Reflex" IEEE Transactions on Intelligent Transportation Systems. PP. 1-11. 10.1109/TITS.2018.2871262. 2. Shalini k and V.K Sharma," DROWSINESS DETECTION SYSTEM USING MATLAB", International Journal of Advanced Research in Science and Engineering, Vol.6,(2017), pp.689-695. 3. Divya Chandan," Drowsiness Detection System Using MATLAB", International Journal of Scientific & Engineering Research, Vol.9, (2018), pp.435-437. 4. K. Dang, S. Sharma, "Review and comparison of face detection algorithms," 7th International Conference on Cloud Computing, Data Science & Engineering, (2017), pp:629-633,doi: 10.1109/CONFLUENCE.2017.7943228 5. Venkata RamiReddy C, Kishore KVK, Bhattacharyya D and Kim TH , Multi-feature fusion based facial expression classification using DLBP and DCT, International journal of software engineering and its applications, (2014), pp: 55–68. 6. C. V. Ramireddy ,K. V. K. Kishore, "Facial expression classification using Kernel based PCA with fused DCT and GWT features," ICCIC, Enathi, (2013), pp: 1-6. 7. AV. Nefian, M. H. Hayes, "Face detection and recognition using Hidden Markov Models," Proceedings ICIP98, Vol.1, (1998), pp:141-145. 8. Samaria F and Young, S, "HMM based architecture for face identification", Image Vis. Comput, Vol. 12, (1994), pp. 537-583. 9. SAI POOJA,CH. VENKATA RAMI REDDY , "Gender detection using LBP and SVM classification", International journal of innovative engineering and management research, Vol.06, (2017), pp.227-237. 10. Viola P and Jones M, Robust real-time face detection", International Journal of Computer Vision, Vol.57, (2004), pp.137-154. 11. OH Jensen O.H "Implementing the Viola-Jones face detection algorithm", PhD Thesis, (2008), DTU, Denmark. 12. Ghazali, K. H. et al. "Feature Extraction Technique using Discrete Wavelet Transform for Image Classification." 5th Student Conference on Research and Development, (2007), pp: 1-4.	**41-44**
9.	**Authors:**	**DS Bhupal Naik, D. Venkatesulu, V Ramakrishna Sajja, A Sridevi**	
	Paper Title:	**Discovering Human Activity Patterns Using Smart Meter Data**	
	Abstract: Women Population lived in rural zone contributes to 68% and urban zones contribute to 32% of the total world population. According to 1995 census, the proportion of rural to urban population of the world was 55% and 45% respectively. By 2025, the increase in the urban population (59%) ratio would be drastic raise to the rural population (41%). The statistics shows that, most of the citizens are moving from rural to urban areas and habituated to the smart technology and least bother about their health. Health care services are a standout amongst the most difficult viewpoints that is extraordinarily influenced by the colossal surge of individuals to city culture. Consequently, urban communities around the globe are putting vigorously in advanced change with an end goal to give more advantageous to individuals. In such a change, a huge number of homes are being furnished with smart gadgets (e.g., smart meters, sensors, etc.,). A well-being health care application is proposed using smart meter data for discovering human activity patterns. A frequent pattern growth algorithm, K-means algorithm and Network aggregator is used to measure and analyze the energy usage by occupants' behaviour. **Keywords:** Smart Meter, Smart technology, FP Growth, K Means, Network aggregator, Healthcare application. **References:** 1. Yassine, A., Singh, S., & Alamri, A. (2017). Mining human activity patterns from smart home big data for health care applications. IEEE Access, 5, 13131-13141. 2. Liao, J., Stankovic, L., & Stankovic, V. (2014, June). Detecting household activity patterns from smart meter data. In Intelligent Environments (IE), 2014 International Conference on (pp. 71-78). IEEE. 3. K.JackandK.William,''TheUK-DALEdataset,domesticappliance-level electricity demand and whole-house demand from five UK homes,'' Sci. Data, vol. 2, p. 150007, Sep. 2015. 4. Alam, M. A. U., Roy, N., Petruska, M., & Zemp, A. (2016, October). Smart-energy group anomaly based behavioral abnormality detection. In Wireless Health (pp. 38-45). 5. Gajowniczek, K., & Ząbkowski, T. (2015). Data mining techniques for detecting household characteristics based on smart meter data. Energies, 8(7), 7407-7427. 6. Yassine, A., Shirehjini, A. A. N., & Shirmohammadi, S. (2015). Smart meters big data: Game theoretic model for fair data sharing in deregulated smart grids. IEEE Access, 3, 2743-2754 7. https://www.i-scoop.eu/internet-of-things-guide/internet-things-healthcare/ 8. http://www.who.int/whr/1998/media_centre/50facts/en/ 9. Dineshkumar, P., Senthilkumar, R., Sujatha, K., Ponmagal, R. S., & Rajavarman, V. N. (2016, December). Big data analytics of IoT based Health care monitoring system. In Electrical, Computer and Electronics Engineering (UPCON), 2016 IEEE Uttar Pradesh Section International Conference on (pp. 55-60). IEEE. 10. DS Bhupal Naik, S.V.Rama Krishna," Parallel Processing of Enhanced K-Means using open MP", IEEE International Conference on Computational Intelligence and Computing Research, 26-28, December 2013.	**45-48**
10.	**Authors:**	**Gowtham Mamidisetti, Nalluri Gowtham, Ramesh Makala**	
	Paper Title:	**Web Data Mining Framework for Accidents Data**	
	Abstract: Women Identification of factors associated with large amount of data is the main key challenge in big data analysis. Heterogeneous nature of data is other factor that makes the analysis difficult. Accident occur due to various factors like poor lighting, un controllable speed at curves, hill region with unidentified climate change, fog, vehicle bad condition, driver health status. Data recorded for these above factors are considered under analysis using segmentation		**49-51**

and clustering methods. Data analysis is done on the accident data to find differences in traffic conditions, weather conditions and road conditions. A research on reasons behind the accidents and impact of public health on accidents data is presented in this work. Segmentation of accident data is done with k-mode and associate rule mining. Trend Identification with similarity analysis approach is used in analyzing road accident data. This papers focuses on finding best analysis model for accident data analysis and also to find the combination of methods required to predict influenced factors that need to be focused to reduce impact of health care on accidents.

Keywords: K-modes; Latent Class Analysis; Association Rule Mining; Trend Analaysis.

References:

1. Sachin Kumar, DurgaToshniwal ., " A data mining framework to analyse road accident data" , Journal of Big Data , a springer open jounal (2015) 2:26 ,DOI 10.1186/s40537-015-0035-y.
2. Sachin Kumar, DurgaToshniwal ., " Analysis of hourly road accident counts using hierarchial clustering and Cophenetic correlation coefficient (CPCC) " , Journal of Big Data , a springer open jounal (2015) 3:13 ,DOI 10.1186/s40537-016-0046-3
3. " Mining of massive Datasets" by AnandRajaraman and Jeffrey David Ullman , Printed by Cambridge University Press.
4. http://www-01.ibm.com/software/data/bigdata/
5. https://sites.google.com/site/dataclusteringalgorithms/k-means-clustering-algorithm

11.

Authors: **Satya Sreedevi Redla, Vamsi Krishna Mangalampalli, Benitamani Mallik**

Paper Title: **Invariant Moment Based Neural Network Classifier for Face Recognition**

Abstract: Comparing the selected features of a digital facial image with those images in database is considered as face recognition system. Several methods have been developed in last few decades based on biometric artificial intelligence. The variability in the angle of facial images and facial expression posed challenging problem in recognition system. This paper develops face recognition methodology based on 7 invariant moments with respect to rotation, translation and scaling using Neural Network classifier. Methodology and demonstrations are being provided. Bio id face benchmark data base is used for the proof of concept. It is noticed that 97% accuracy is attained on randomly selected sample of 10 individual's faces.

Keywords: Face Recognition, Face detection, Feature extraction, Hu moments, Neural network classifier.

References:

1. Wei-Lun Chao, "Face Recognition", GICE, National Taiwan University
2. M. A. Turk and A. P. Pentland, "Face Recognition Using Eigenfaces", 1991.
3. R. Brunelli and T. Poggio, \Face recognition: features versus templates," IEEE Transaction on Pattern Analysis and Machine Intelligence, vol. 15, October 1993.
4. S. Suhas, A. Kurhe, Dr. P. Khanale, "Face Recognition Using Principal Component Analysis and Linear Discriminant Analysis on Holistic Approach in Facial Images Database", IOSR Journal of Engineering e-ISSN: 2250-3021, p-ISSN: 2278-8719, Vol. 2, Issue 12 (Dec. 2012), ||V4|| PP 15-23
5. Divyarajsinh N. Parmar, Brijesh B. Mehta "Face Recognition Methods & Applications", Int. J. Computer Technology & Applications, Vol 4 (1), 84-86
6. MING-KUEI HU," Visual Pattern Recognition by Moment Invariants", IRE TRANSACTIONS ON INFORMATION THEORY, 1962.
7. Z Huang, J Leng, "Analysis of Hu's moment invariants on image scaling and rotation", Computer Engineering and Technology …, 2010 - ieeexplore.ieee.org [Volume 7]

52-58

12.

Authors: **Jawahar Gawade, Latha Parthiban**

Paper Title: **Opinion Mining of Product Features with Customer Reviews**

Abstract: With the fast growth in e-commerce, surveys for famous products on the web have grown rapidly. Although these reviews are significant in making decisions, it is difficult to read all reviews. Automation of emotion mining method was the well-known answer to the dilemma. Although there are algorithms for emotion mining, an algorithm with evolving accuracy is needed. An algorithm which extracts product traits from surveys based on traits frequency and generates a view on item traits is developed and tested on downloaded buyer review. The sentences were tagged, sentiment words were extracted and view orientations were identified using the semantic orientation of notion terms. The precision values for traits extraction and both precision and recall values for view orientation recognition were significantly improved by the proposed algorithm.

Keywords: Opinion Mining; Customer Reviews; Sentiment Analysis; Sentiment Classification;

References:

1. Alec Go, Richa Bhayani, and Lei Huang, Twitter sentiment classification using distant supervision processing, Stanford University, 2009, pp.1-6.
2. Minqing Hu, Bing Liu, Mining and summarizing customer reviews, ACM SIGKDD international conference on Knowledge discovery and data mining, 2004.
3. Bo Pang and Lillian Lee, Shivakumar Vaithyanathan, Thumbs up: Sentiment classification using machine learning techniques, International Conference on Empirical Methods in Natural Language Processing (EMNLP), 2002, pp.79-86.
4. Bo Pang, Lillian Lee, A sentimental education: sentiment analysis using subjectivity summarization based on minimum cuts, In the Proceedings of the Association for Computational Linguistics (ACL), 2004, pp.271-278.
5. Bo Pang, Lillian Lee, Opinion mining and sentiment analysis, Foundations and Trends in Information Retrieval, 2008, Vol No 2, pp.1135.
6. Magdalini Eirinaki, Shamita Pisal, Japinder Singh,Feature-based opinion mining and ranking, Journal of Computer and System Sciences, 2012, Vol No. 78, pp. 11751184.
7. Lei Zhang, Riddhiman Ghosh, Mohamed Dekhil, Meichun Hsu, Bing Liu, Combining lexicon based and learning-based methods for twitter sentiment analysis, Technical Report, 2011, pp.89.
8. Kamal Amarouche, Houda Benbrahim, Ismail Kassou,Product Opinion Mining for Competitive Intelligence, The International Conference on Advanced Wireless, Information, and Communication Technologies, 2015, pp.358-365.
9. Xiaowen Ding, Bing Liu, Lei Zhang, Entity discovery and assignment for opinion mining applications, 15th ACM SIGKDD international conference on Knowledge discovery and data mining, 2009, pp.1125-1134.
10. Theresa Wilson, Paul Hoffmann, Swapna Somasundaran, Jason Kessler, Janyce Wiebe, Opinion nder: a system for subjectivity analysis, In HLT/EMNLP on Interactive Demonstrations, 2005, pp.34-35.
11. Wei Jin, Hung Hay Ho, Rohini K. Srihari , Opinion-Miner: a novel machine learning system for web opinion mining and extraction, 15th ACM

59-64

SIGKDD international conference on Knowledge discovery and data mining, 2009, pp.1195-1204.
12. Jerome R. Bellegarda, Emotion Analysis Using Latent A ective Folding and Embedding, Proceeding CAAGET '10 Proceedings of the NAACL HLT 2010 Workshop on Computational Approaches to Analysis and Generation of Emotion in Text, 2010, pp.1-9.
13. Vibha Soni , Meenakshi R Patel, Unsupervised Opinion Mining from Text Reviews Using SentiWord Net, IJCTT, 2009, Vol No. 11, pp.234-238.
14. Alexander Pak, Patrick Paroubek, Twitter as a Corpus for Sentiment Analysis and Opinion Mining, LREC, 2010, pp.1320-1326.
15. Bing Liu, Sentiment Analysis and Opinion Mining, Human Language Technologies, 2012, pp.1-167.
16. Stefano Ferillia, Floriana Espositoa, Domenico Griecoa, Automatic Learning of Linguistic Resources for Stopword Removal and Stemming from Text, Procedia Computer Science, 2014, Vol No.38, pp.116-123.
17. Munir Ahmad, Shabib Aftab, Muhammad Salman Bashir, Noureen Hameed, Sentiment Analysis using SVM: A Systematic Literature Review, (IJACSA) International Journal of Advanced Computer Science and Applications, 2018, Vol. No. 9..
18. Zhongwu Zhai, Bing Liu, Hua Xu, Peifa Jia,Clustering Product Features for Opinion Mining, WSDM11, 2011, pp.1-8.
19. Bruce W. Classification for Selected Spell Checkers and Correctors, Technical Report TR-UNISA-2008-01, 2008.
20. Minqing Hu, Bing Liu, Mining opinion features in customer reviews, The 19th National Conference on Artificial Intelligence, 2004, pp.755-760.
21. Wei Jin, Hung Hay Ho, Rohini K. Srihari , Opinion Miner: A novel machine learning system for web opinion mining and extraction, 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2009, pp.1195-1204.
22. Mara del Pilar Salas-Zrate, Rafael Valencia-Garca, Antonio Ruiz-Martnez, Feature-Based Opinion Mining through ontologies, Procedia computer science, 2015, Vol No. 73, pp. 358-365.
23. Zhichao Li, Min Zhang, Shaoping Ma, Bo Zhou, Yu Sun, Automatic extraction for product feature words from comments on the web, Information Retrieval Technology, 2009, pp.112-123.
24. Bruno Ohana, Brendan Tierney, Sentiment classification of reviews using SentiWord Net, 9th. ITT Conference, 2009, pp.1-6.
25. Stefano Baccianella, Andrea Esuli, Fabrizio Sebastiani, An Enhanced Lexical Resource for Sentiment Analysis and Opinion Mining, 7th Conference on International Language Resources and Evaluation, 2010, pp.2200-2204.
26. Bhumika M. Jadav, Vimalkumar B. Vaghela, Sentiment Analysis using Support Vector Ma-chine based on Feature Selection and Semantic Analysis, International Journal of Computer Applications, 2016, Vol No.146, pp.26-30.
27. Aurangzeb Khan, Baharum Baharudin, Lam Hong Lee, Khairullah khan , A Review of Machine Learning Algorithms for Text-Documents Classi cation, Journal of Advances in Information Technology, 2010, Vol No. 1, pp.4-20.
28. Abd. Samad Hasan Basaria, Burairah Hussina, I. Gede Pramudya Anantaa, Junta Zeniarjab, Opinion Mining of Movie Review using Hybrid Method of Support Vector Ma-chine and Particle Swarm Optimization, Procedia Engineering, 2013, Vol No.53, pp.453-462.
29. Vinodhini, Chandrasekaran, Measuring the Quality of Hybrid Opinion Mining Model for E-Commerce Application, Research gate, 2014, Vol No. 55, pp.101-109.
30. Obuandike Georgina N, Audu Isah, John Alhasan,Analytical Study of Some Selected Classification Algorithms in WEKA Using Real Crime Data, International Journal of Advanced Research in Artificial Intelligence, 2015, Vol. No.4, pp.44-48.
31. Neha, Neha K.s., Prof Santhosh Rebello, Opinion Mining On Brand Aimit Using Support Vector Machine, International Journal of Latest Trends in Engineering and Technology Special Issue SACAIM, 2016, pp.236-240.
32. Mir Shahriar Sabuj, Zakia Afrin, K. M. Azharul Hasan,Opinion Mining Using Support Vector Machine with Web Based Diverse Data, International Conference on Pattern Recognition and Machine Intelligence, 2017, vol. 10597.
33. Jayashri Khairnar, Mayura Kinikar, Machine Learning Algorithms for Opinion Mining and Sentiment Classification, International Journal of Scientific and Research Publications, 2013, Vol No. 3, pp.1-6.
34. Anshul Goyal, Performance Comparison of Nave Bayes and J48 Classification Algorithms, International Journal of Applied Engineering Research, 2012, Vol No. 7, pp.1-5.
35. Pisote A, Bhuyar V,Review Article on Opinion mining using Nave Bayes Classifier, Advances in Computational Research, 2015, Vol. No. 7, pp.259-261.
36. Antriksh Pandita, Ajinkya Jadhav, Vijay Singh, Ashok Pawar, Nilav Mukhopadhyay,A Comparative Study of Techniques Data Classification based on Nave Bayes, IJCA, 2015, Vol No. 5, pp.1-4.
37. Daya C. Wimalasuriya, Dejing Dou, Ontology-Based Information Extraction: An Introduction and a Survey of Current Approaches, Journal of Information Science, 2009, pp.1-20.
38. Alec Go, Richa Bhayani, and Lei Huang, Twitter sentiment classification using distant supervision, Technical Report, 2017.
39. Pranali Borele, Dilipkumar A. Borikar, An Approach to Sentiment Analysis using Artificial Neural Network with Comparative Analysis of Di erent Techniques, IOSR-JCE, 2016, Vol No. 18, pp.64-69.
40. K. M. Azharul Hasan, Mir Shahriar Sabuj, Zakia Afrin,Opinion Mining using Nave Bayes, IEEE International WIE Conference on Electrical and Computer Engineering, 2015, pp.19-20.
41. Suraj Kumar, Aman Jain, P. Mahalakshmi, Enhancement of Healthcare Using Nave Bayes Algorithm and Intelligent Datamining of Social Media, International Journal of Applied Engineering Research, 2018, Vol No. 13, pp.4109-4112.

Authors: **Jawahar Gawade, Latha Parthiban**

Paper Title: **Opinion Mining on Amazon Product Data using Dictionary Approach**

Abstract: In opinion mining, the expression is composed in a normal speech about a topic and classify them as good bad or unbiased based on the human's view, feeling, thoughts stated in it. Currently, customer views and remarks on goods are multiplying everyday. These remarks are beneficial for different buyers. Human calculation of huge count of reviews is almost not feasible. To interpret this problem an automatic way of a tool to mine the general views of reviewers is required. This paper concentrate on the dictionary based opinion mining of product reviews.

Keywords: Sentiment analysis, opinion mining, machine learning, product reviews, semantic orientation, SentiWordNet

References:

1. [Rania Othman et al." Extracting Product Features for Opinion Mining Using Public Conversations in Twitter", International Conference on Knowledge Based and Intelligent Information and Engineering Systems, KES2017, 6-8 September 2017, pp. 1-9.
2. Venkata Rajeev P et al." Recommending Products to Customers using Opinion Mining of Online Product Reviews and Features", 2015 International Conference on Circuit, Power and Computing Technologies, pp.1-5.
3. Shoiab Ahmed et al." A Novel Approach for Sentimental Analysis and Opinion Mining based on SentiWordNet using Web Data", IEEE 2015, pp-1-5.
4. Roshan Fernandes et al. "Analysis of Product Twitter Data though Opinion Mining", IEEE 2016, pp. 1-5.
5. A. Angelpreethi et al. "An enhanced architecture for feature based opinion mining from product reviews", World Congress on Computing and Communication Technologies 2017, pp.1-4.
6. Blety Babu Alengadan et al. "Modified Aspect/Feature Based Opinion Mining for a Product Ranking System", IEEE pp.1-5.
7. S.Sangeetha et al. "Aspects based Opinion Mining from Online Reviews for Product Recommendation", International Conference on Computational Intelligence in Data Science, IEEE 2017, pp.1-6.
8. Afshan Ejaz et al. "Opinion Mining Approaches on Amazon Product Reviews: A Comparative Study", IEEE 2017, pp. 1-7.
9. Kudakwashe Zvarevashe et al. "A Framework for Sentiment Analysis with Opinion Mining of Hotel Reviews", Conference on Information Communications Technology and Society 2018, pp. 1-4.
10. Alec Go, et al, "Twitter sentiment classification using distant supervision processing", Stanford University, 2009, pp. 1–6.
11. M. Hu, et al, "Mining and summarizing customer reviews", ACM SIGKDD international conference on Knowledge discovery and data mining, 2004, pp. 168-177.

13. **65-69**

12. Bo Pang, et al, “Thumbs up: Sentiment classification using machine learning techniques”, International Conference on Empirical Methods in Natural Language Processing (EMNLP), 2002, pp. 79–86.
13. Bo Pang, et al, “A sentimental education: sentiment analysis using subjectivity summarization based on minimum cuts”, In the Proceedings of the Association for Computational Linguistics (ACL), 2004, pp.271–278
14. Bo Pang, et al, “Opinion mining and sentiment analysis”, Foundations and Trends in Information Retrieval, 2008, Vol No 2, pp.1–135.
15. Magdalini Eirinaki, et al, “Feature-based opinion mining and ranking”, Journal of Computer and System Sciences, 2012, Vol No. 78, pp. 1175–1184.
16. Ley Zhang, et al, “Combining lexicon based and learning-based methods for twitter sentiment analysis”, Technical Report HPL-2011-89, HP.
17. Kamal Amarouche, et al,” Product Opinion Mining for Competitive Intelligence”, The International Conference on Advanced Wireless, Information, and Communication Technologies (AWICT 2015), Procedia Computer Science 73 , 2015 ,pp. 358 – 365.
18. D. Xiaowen, et al, “Entity discovery and assignment for opinion mining applications”, 15th ACM SIGKDD international conference on Knowledge discovery and data mining, 2009, pp. 1125- 1134.
19. T. Wilson, et al, “Opinion finder: a system for subjectivity analysis”. In HLT/EMNLP on Interactive Demonstrations, 2005, pp. 34–35.
20. W. Jin, et al, “Opinion-Miner: a novel machine learning system for web opinion mining and extraction”, in 15th ACM SIGKDD international conference on Knowledge discovery and data mining, 2009, pp. 1195-1204.
21. Jerome R. Bellegarda, “Emotion Analysis Using Latent Affective Folding and Embedding”, Proceeding CAAGET '10 Proceedings of the NAACL HLT 2010 Workshop on Computational Approaches to Analysis and Generation of Emotion in Text. 2010, pp. 1-9.
22. Vibha Soni, et al, “Unsupervised Opinion Mining from Text Reviews Using SentiWordNet Net”, IJCTT, Vol No. 11, 2014, pp. 234-238.
23. A. Pak, et al, “Twitter as a Corpus for Sentiment Analysis and Opinion mining”, LREC, 2010, pp. 1320-1326.
24. Bing Liu, “Sentiment Analysis and Opinion Mining”. Human Language Technologies 2012, pp. 1-167.
25. Stefano Ferilli et al, “Automatic Learning of Linguistic Resources for Stopword Removal and Stemming from Text”, Procedia Computer Science, Vol No.38, 2014, 116 – 123.
26. Fellbaum C, “WordNet: An electronic lexical database”, MIT press Cambridge, 1998, MA.
27. Zhongwu Zhai, et al, “Clustering Product Features for Opinion Mining”, WSDM’11, 2011, pp. 1-8.
28. Bruce W, et al, “Classification for Selected Spell Checkers and Correctors”, Technical Report TR-UNISA-2008-01, School of Computing, University of South Africa, 2008.
29. M. Hu, et al, “Mining opinion features in customer reviews”, The 19th National Conference on Artificial Intelligence, 2004, pp. 755–760.

14.

Authors: **D. Shine Babu, Latha Parthiban, Sivagama Sundari. G**

Paper Title: **Motif Structure Prediction in distributed framework using Machine Learning Algorithms**

Abstract: It is a challenging work for researchers to design and develop new techniques for processing of data and development of new drugs. A distributed approach, which will work for huge amount of protein data and for predicting the motif structures in a large scale is proposed in this paper. ANNs has been used as classifier to estimate the motif structure of proteins. It will be helpful for the researchers and aids in understanding the relation between protein sequence and structure using which new drugs and novel enzymes can be designed after analyzing the protein structures.

Keywords: Bioinformatics, Big data, Map Reduce, Machine learning, Apache Hadoop, protein structure prediction

References:

1. H. Bordoloi and K. K. Sarma, ``Protein Structure Prediction Using Multiple Artificial Neural Network Classifier"", as a Chapter of a volume titled Soft Computing Techniques in Vision Science, Studies in Computational Intelligence, 2012, Volume 395/2012, pp. 137-146, DOI: 10.1007/978-3-642-25507-6_12 , 2012.
2. H. Bordoloi and K. K. Sarma, ``Protein Structure Prediction using Artificial Neural Network"", IJCA Special Issue on Electronics, Information and Communication Engineering ICEICE (3), pp. 24-26, December 2011. Published by Foundation of Computer Science, New York, USA.
3. Li, J. , Wu, J. and Chen, K. (2013) PFP-RFSM: Protein fold prediction by using random forests and sequence motifs. Journal of Biomedical Science and Engineering, 6, 1161-1170.
4. A. Deka and K. K. Sarma,"Soft Computational Framework for Tertiary Protein Structure Prediction", International Journal of Electronics Signals and Systems (IJESS), ISSN:2231-5969, Vol.1, Issue 3
5. Chou, K.C. and Shen, H.B. (2009) Review: Recent advances in developing web-servers for predicting protein attributes. Natural Science, 2, 63-92.
6. Nanni, L. (2006) A novel ensemble of classifiers for protein fold recognition. Neurocomputing, 69, 2434-2437.
7. D. cutting, “Apache Hadoop is a new way for enterprises to store and analyze data.,” Cloud era, 2010.
8. Liu, L., Hu, X.Z., Liu, X.X., Wang, Y. and Li, S.B. (2012) Predicting protein fold types by the general form of chou’s pseudo amino acid composition: Approached from optimal feature extractions. Protein & Peptide Letters, 19, 439-449. .
9. Yang, T., Kecman, V., Cao, L., Zhang, C. and Huang, J.Z. (2011) Margin-based ensemble classifier for protein fold recognition. Expert Systems, 38, 12348-12355.

70-74

15.

Authors: **Ebenezer Jangam, Rahul Kumar, Rajesh Dwivedi, Vishnu Kumar**

Paper Title: **Segmentation of Lungs from Chest X-rays using Firefly Optimized Spatial FCM(FASFCM)**

Abstract: Segmentation of lungs from chest x ray is a non-trivial task required as a preprocessing step for detection of different diseases like cardiomegaly, tuberculosis, pneumonia. High accuracy in segmentation of lung results in high accuracy of detection of diseases from lungs. For the past four decades multiple techniques were proposed for automatic segmentation of lungs. In this paper, we propose a hybrid segmentation technique based on Bat optimized fuzzy c-means clustering algorithm. The output of the fuzzy c-means is given to level set to finalize the segmentation of the lungs. The performance of the proposed technique is evaluated using two public chest x ray datasets: JRST and Montgomery County. JRST contains 247 chest X-rays and MC dataset contains 138 chest X-rays. The Jaccard coefficient for the proposed segmentation technique is 95.1 which is on par with the state of art segmentation techniques.

Keywords: Use about five key words or phrases in alphabetical order, Separated by Semicolon.

References:

1. Cai, W., Chen, S., Zhang, D.: Fast and robust fuzzy cmeans clustering algorithms incorporating local information for image segmentation. Pattern recognition 40(3), 825–838 (2007)
2. Candemir, S., Jaeger, S., Palaniappan, K., Antani, S., Thoma, G.: Graph-cut based automatic lung boundary detection in chest radiographs. In: IEEE Healthcare Technology Conference: Translational engineering in health & medicine. pp. 31–34 (2012)
3. Candemir, S., Jaeger, S., Palaniappan, K., Musco, J.P., Singh, R.K., Xue, Z., Karargyris, A., Antani, S., Thoma, G., McDonald, C.J.: Lung segmentation in chest radiographs using anatomical atlases with nonrigid registration. IEEE transactions on medical imaging 33(2), 577– 590 (2014)

75-78

4. Chondro, P., Yao, C.Y., Ruan, S.J., Chien, L.C.: Low order adaptive region growing for lung segmentation on plain chest radiographs. Neurocomputing 275, 1002– 1011 (2018)
5. Chuang, K.S., Tzeng, H.L., Chen, S., Wu, J., Chen, T.J.: Fuzzy c-means clustering with spatial information for image segmentation. computerized medical imaging and graphics 30(1), 9–15 (2006)
6. Dai, W., Doyle, J., Liang, X., Zhang, H., Dong, N., Li, Y., Xing, E.P.: Scan: Structure correcting adversarial network for organ segmentation in chest x-rays. arXiv preprint arXiv:1703.08770 (2017)
7. Giger, M.L., Chan, H.P., Boone, J.: Anniversary paper: History and status of cad and quantitative image analysis: the role of medical physics and aapm. Medical physics 35(12), 5799–5820 (2008)
8. Ibragimov, B., Likar, B., Pernus, F., Vrtovec, T.: Accurate landmark-based segmentation by incorporating landmark misdetections. In: Biomedical Imaging (ISBI), 2016 IEEE 13th International Symposium on. pp. 1072–1075. IEEE (2016)
9. Ibragimov, B., Likar, B., Pernus, F., et al.: A game theoretic framework for landmark-based image segmentation. IEEE Transactions on Medical Imaging 31(9), 1761–1776 (2012)
10. Jaeger, S., Candemir, S., Antani, S., Wang, Y.X.J., Lu,´ P.X., Thoma, G.: Two public chest x-ray datasets for computer aided screening of pulmonary diseases. Quantitative imaging in medicine and surgery 4(6), 475 (2014)
11. Karargyris, A., Siegelman, J., Tzortzis, D., Jaeger, S., Candemir, S., Xue, Z., Santosh, K., Vajda, S., Antani, S., Folio, L., et al.: Combination of texture and shape features to detect pulmonary abnormalities in digital chest x-rays. International journal of computer assisted radiology and surgery 11(1), 99– 106 (2016)
12. Li, B.N., Chui, C.K., Chang, S., Ong, S.H.: Integrating spatial fuzzy clustering with level set methods for automated medical image segmentation. Computers in biology and medicine 41(1), 1–10 (2011)
13. Li, X., Luo, S., Hu, Q., Li, J., Wang, D., Chiong, F.: Automatic lung field segmentation in x-ray radiographs using statistical shape and appearance models. Journal of Medical Imaging and Health Informatics 6(2), 338–348 (2016)
14. Mould, R.F.: A century of X-rays and radioactivity in medicine: with emphasis on photographic records of the early years. CRC Press (1993)
15. Novikov, A.A., Lenis, D., Major, et al.: Fully convolutional architectures for multi-class segmentation in chest radiographs. IEEE Transactions on Medical Imaging (2018)
16. Rao, N.G., Kumar, V.V., Krishna, V.V.: Texture based image indexing and retrieval. IJCSNS International Journal of Computer Science and Network Security 9(5), 206– 210 (2009)
17. Rao, N.G., Sravani, T., Kumar, V.V.: Ocrm: optimal cost region matching similarity measure for region based image retrieval. Int J Multimedia Ubiquitous Eng 9(4), 327 (2014)
18. D. Seghers, D. Loeckx, F. Maes, D. Vandermeulen and P. Suetens, "Minimal Shape and Intensity Cost Path Segmentation," in IEEE Transactions on Medical Imaging, vol. 26, no. 8, pp. 1115-1129, Aug. 2007
19. Santosh, K., Vajda, S., Antani, S., Thoma, G.R.: Edge map analysis in chest x-rays for automatic pulmonary abnormality screening. International journal of computer assisted radiology and surgery 11(9), 1637–1646 (2016)
20. Seghers, D., Loeckx, D., Maes, F., Vandermeulen, D., Suetens, P.: Minimal shape and intensity cost path segmentation. IEEE Transactions on Medical Imaging 26(8), 1115–1129 (2007)
21. Seghers, D., Loeckx, D., Maes, F., Vandermeulen, D., Suetens, P.: Minimal shape and intensity cost path segmentation. IEEE Transactions on Medical Imaging 26(8), 1115–1129 (2007)
22. Sethian, J.A., et al.: Level set methods and fast marching methods. Journal of Computing and Information Technology 11(1), 1–2 (2003)
23. Shao, Y., Gao, Y., Guo, Y., Shi, Y., Yang, X., Shen, D.: Hierarchical lung field segmentation with joint shape and appearance sparse learning. IEEE transactions on medical imaging 33(9), 1761–1780 (2014)
24. Shi, Y., Qi, F., Xue, Z., Chen, L., Ito, K., Matsuo, H., Shen, D.: Segmenting lung fields in serial chest radiographs using both population-based and patient-specific shape statistics. IEEE Transactions on Medical Imaging 27(4), 481–494 (2008)
25. Shiraishi, J., Katsuragawa, S., Ikezoe, J., Matsumoto, T., Kobayashi, T., Komatsu, K.i., Matsui, M., Fujita, H., Kodera, Y., Doi, K.: Development of a digital image database for chest radiographs with and without a lung nodule: receiver operating characteristic analysis of radiologists' detection of pulmonary nodules. American Journal of Roentgenology 174(1), 71–74 (2000)
26. Vajda, S., Karargyris, A., Jaeger, S., Santosh, K., Candemir, S., Xue, Z., Antani, S., Thoma, G.: Feature selection for automatic tuberculosis screening in frontal chest radiographs, Journal of medical systems 42(8), 146 (2018)
27. Van Ginneken, B., Stegmann, M.B., Loog, M.: Segmentation of anatomical structures in chest radiographs using supervised methods: a comparative study on a public database. Medical image analysis 10(1), 19–40 (2006)
28. Wang, C.: Segmentation of multiple structures in chest radiographs using multi-task fully convolutional networks. In: Scandinavian Conference on Image Analysis. pp. 282–289. Springer (2017)
29. Wang, X., Peng, Y., Lu, L., Lu, Z., Bagheri, M., Summers, R.M.: Chestx-ray8: Hospital-scale chest x-ray database and benchmarks on weakly-supervised classification and localization of common thorax diseases. In: Computer Vision and Pattern Recognition (CVPR), 2017 IEEE Conference on. pp. 3462–3471. IEEE (2017)
30. Yang, W., Liu, Y., Lin, L., Yun, Z., Lu, Z., Feng, Q., Chen, W.: Lung field segmentation in chest radiographs from boundary maps by a structured edge detector. IEEE journal of biomedical and health informatics 22(3), 842– 851 (2018)

16.

Authors: **V Ramakrishna Sajja, Gnaneswara Rao Nitta**

Paper Title: **Experimental Approache for Detection of Brain Tumor Grade Using Svm Classification**

Abstract: Women Brain tumor detection is an urgent assignment for doctors. Cerebrum tumor grows quickly and average volume will be doubled in only twenty days. If it is not diagnosed carefully, the life time of the patient will not be the greater part a year. Such tumors can quickly prompt passing. Thus, a programmed framework is required for mind tumor identification at a beginning period. In this paper, a computerized strategy is proposed to effectively separate amongst harmful and cancerous free Magnetic Resonance Image (MRI) of the mind. Diverse systems are imposed to isolate tumor. At that point feature set has been considered at each tumor region utilizing Intensity, shape and surface. By then, a popular classification technique called Support Vector Machine (SVM) is imposed by various cross validations on the features set to look at the accuracy of structure introduced in this paper. The new technique approved on a standard dataset, BRATS. The strategy accomplished with average accuracy of 98.2%, area under curve is 0.98, sensitivity of 92.8% and specificity of 98.5%. This method can be utilized to distinguish the brain tumor with much accuracy when contrasted with earlier techniques proposed.

Keywords: Brain tumor, pre processing, Segmentation, K-Means, Morphological operations, Feature Extraction, Classification, and Support Vector Machine.

79-85

References:

1. Haj-Hosseini Neda , Peter Milos , Camilla Hildesj , Martin Hallbeck , Johan Richter , Karin Wrdell , Fluorescence spectroscopy and optical coherence tomography for brain tumor detection, in: SPIE Photonics Europe, Biophotonics: Photonic Solu- tions for Better Health Care, Brussels Belgium, SPIE-International Society for Optical Engineering, 2016, pp. 9887–9896.
2. Y. Liu , A. Carpenter , H. Yuan , Z. Zhou , M. Zalutsky , G. Vaidyanathan , H. Yan , T Vo-Dinh, Goldnanostar as theranostic probe for brain tumor sensitive PET-optical imaging and image-guided specific photothermal therapy, Cancer Res. 76 (14) (2016) 4213 .
3. D.N. Louis , A. Perry , G. Reifenberger , A. von Deimling , D. FigarellaBranger , W.K. Cavenee , H. Ohgaki , O.D. Wiestler , P. Kleihues , D.W. Ellison , The World Health Organization classification of tumors of the central nervous system: a summary, Acta Neuropathol. 131 (6) (2016) 803–820 .

4. S.J. Choi , J.S. Kim , J.H. Kim , S.J. Oh , J.G. Lee , C.J. Kim , Y.S. Ra , J.S Yeo , J.S Ryu , D.H. Moon , [18F] 3-deoxy-3-fluorothymidine PET for the diagnosis and grading of brain tumors, Eur. J. Nuclear Med. Mol. Imag. 32 (6) (2005) 653–659 .
5. V. Janani , P. Meena ,Image segmentation for tumor detection using fuzzy in- ference system, Int. J. Comput. Sci. Mobile Comput. (IJCSMC) 2 (5) (2013) 244–248 .
6. B. Dong , A. Chien , Z. Shen , Frame based segmentation for medical images, Commun. Math. Sci. 32 (4) (2010) 1724–1739 .
7. J. Patel , K. Doshi , A study of segmentation methods for detection of tumor in brain MRI, Adv. Electron Electr. Eng. 4 (3) (2014) 279–284 .
8. M. Rohit , S. Kabade , M.S. Gaikwad , Segmentation of brain tumour and its area calculation in brain MRI images using K-mean clustering and Fuzzy C-mean algorithm, Int. J. Comput. Sci. Eng. Technol. (IJCSET) 4 (5) (2013) 524–531 .
9. H.A. Aslam , T. Ramashri , M.I.A. Ahsan , A new approach to image segmenta- tion for brain tumordetection using pillar K-means algorithm, Int. J. Adv. Res. Comput. Commun. Eng. 2 (3) (2013) 1429–1436 .
10. V. Sehgal , Z. Delproposto , D. Haddar , E.M. Haacke , A.E. Sloan , L.J. Zamorano , G. Barger , J. Hu , Y. Xu , K.P. Prabhakaran , I.R. Elangovan , Susceptibility-weighted imaging to visualize blood products and improve tumor contrast in the study of brain masses, J. Magnet. Reson. Imaging 24 (1) (2006) 41–51 .
11. A . Mustaqeem , A . Javed , T. Fatima , An efficient brain tumor detection algorithm using watershed and thresholding based segmentation, Int. J. Image Graph. Signal Process. 4 (10) (2012) 34–39 .
12. S.J. Prajapati , K.R. Jadhav , Brain tumor detection by various image segmenta- tion techniques with introduction to non-negative matrix factorization, Brain 4 (3) (2015) 600–603 .
13. Dipak Kumar Kole , Amiya Halder ,Automatic brain tumor detection and iso- lation of tumor cells from MRI Images, Int. J. Comput. Appl. 39 (16) (2012) 26–30 .
14. K.M. Iftekharuddin , J. Zheng , M.A Islam , R.J. Ogg , Fractal-based brain tumor de- tection in multimodal MRI, Appl. Math. Comput. 207 (1) (2009) 23–41 .
15. T. Logeswari , M. Karnan , An improved implementation of brain tumor detec- tion using segmentation based on hierarchical self organizing map, Int. J. Com- put. Theory Eng. 2 (4) (2010) 1793–8201 .
16. S.K. Bandhyopadhyay , T.U. Paul ,Automatic segmentation of brain tumour from multiple images of brain MRI, Int. J. Appl. Innovat. Eng. Manage. (IJAIEM) 2 (1) (2013) 240–280 .
17. Tuhin Utsab Paul , Samir Kumar Bandhyopadhyay , Segmentation of brain tumor from brain MRI images reintroducing K -Means with advanced dual localiza- tion method, Int. J. Eng. Res. Appl.(IJERA) 2 (3) (2012) 226–231 .
18. A. Meena , R. Raja , Spatial fuzzy c means pet image segmentation of neurode- generative disorder, Comput. Vis. Pattern Recognit. 4 (1) (2013) 50–55 .
19. P. Vasuda , S. Satheesh , Improved Fuzzy C-Means algorithm for MR brain image segmentation, Int. J. Comput. Sci. Eng. 2 (5) (2010) 1713–1715 .
20. K. Sudharani , T.C. Sarma , K.S. Prasad , Advanced morphological technique for automatic brain tumor detection and evaluation of statistical parameters, Pro- cedia Technol. 24 (2016) 1374–1387 .
21. N. Nabizadeh , N John , C. Wright , Histogram-based gravitational optimization algorithm on single MR modality for automatic brain lesion detection and seg- mentation, Expert Syst.Appl. 41 (17) (2014) 7820–7836 .
22. MM Subashini , SK Sahoo , V Sunil , S Easwaran , A non-invasive methodology for the grade identification of astrocytoma using image processing and artificial intelligence techniques, Expert Syst.Appl. 43 (2016) 186–196 .
23. Abdel-Maksoud Eman , Elmogy Mohammed , Al-Awadi Rashid , Brain tumor seg- mentation based on a hybrid clustering technique, Egypt. Inf. J. 16 (1) (2015) 71–81 .
24. N. Nabizadeh , M. Kubat , Brain tumors detection and segmentation in MR im- ages: Gabor wavelet vs. statistical features, Comput. Electr. Eng. 45 (2015) 286–301 .
25. Megha Kadam , Avinash Dhole , Brain tumor detection using GLCM with the help of KSVM, Int. J. Eng. Tech. Res. (IJETR) 7 (2) (2017) 2454–4698 .
26. DS Bhupal Naik and S.V.Rama Krishna," Parallel Processing of Enhanced K-Means using open MP", IEEE International Conference on Computational Intelligence and Computing Research, 26-28, December 2013.
27. V Ramakrishna Sajja and N Gnaneswara Rao, "Segmentation Of Medical Images Using Enhanced K-Means, Wavelet Transformations Andmorphological Operations", 46th international conference on Computers and Industrial Engineering, Tianjin University, Tianjin, China.
28. Javeria Amin a , Muhammad Sharif a , Mussarat Yasmin a , ∗, Steven Lawrence Fernandes,A distinctive approach in brain tumor detection and classification using MRI, Pattern Recognition Letters, (2017).

	Authors:	**T Anand, M Shanmugam, B Santhoshini**
	Paper Title:	**Rainbow Table Attack on 3rd Generation GSM Telephony Secure Algorithm - A5/3**

Abstract: Women GSM is a digital cellular network standard to send the customer's data or voice through the air in mobile communication. GSM standard spreads over more than 80% of population in all over the world. The security of customer's data is protected in the GSM by A5 family of cryptosystem. We are working on A5/3 cryptosystem used by the 3rd generation GSM for transmitting secured information through the air. The A5/3 cryptosystem is a stream cipher and having a key generator based on KASUMI block cipher. The A5/3 acccepts 64-bit input and gives a pair of 114-bit block output under the control of 128-bit key. Because of the large key space for the A5/3, we decided to work on a reduced version of the A5/3, called T5/3. The T5/3 accepts 32-bit input and gives a pair of 64-bit block output under the control of 64-bit keys. We are using TMTO(Time Memory Trade Off) technique to attack the T5/3 cipher. Rainbow table attack is a TMTO based technique and is feasible for the T5/3 cryptosystem. There are two phases, the offline precomputation phase and the online lookup phase in Rainbow table attack. The precomputation phase is a time consuming process and the lookup phase is a real time process which retrives the key used for the T5/3 cryptosystem. We have generated different sized Rainbow table and successfully attacked the T5/3 cipher. We have analyzed different parameters used in the Rainbow table attack like Distinguish Point(DP), Reduction Function(RF) and Collision. The Reduction function is a mapping from cipher text to a key in the keyspace. The Reduction function doesn't have much significance in the chainlength and the collision in Rainbow table. Distinguish points are certain conditions which allows the reduction in time for the searching of key in lookup phase. If the DP value is more then the chianlength, collision and time to generate the Rainbow table are also increases.

17.

Index Terms: GSM, Cryptosystem, Rainbow table attack, Ciphertext, A5/3

References:

1. Orr Dunkelman, Nathan Keller, and Adi Shamir. A practical-time related-key attack on the kasumi cryptosystem used in gsm and 3g telephony. In Advances in Cryptology–CRYPTO 2010, pages 393–410. Springer, 2010.
2. Specification of the 3GPP Confidentiality and Integrity Algorithms; Version: 1.0;Document 3: Implementors Test Data;.
3. Martin E Hellman. A cryptanalytic time-memory trade-off. Information Theory, IEEE Transactions on, 26(4):401–406, 1980.
4. Dorothy Elizabeth Robling Denning. Information warfare and security, volume 4. Addison-Wesley Reading, 1999.
5. Philippe Oechslin. Making a faster cryptanalytic time-memory trade-off. In Advances in Cryptology-CRYPTO 2003, pages 617–630. Springer, 2003.
6. Panagiotis Papantonakis, Dionisios Pnevmatikatos, Ioannis Papaefstathiou, and Charalampos Manifavas. Fast, fpga-based rainbow table creation

for attacking encrypted mobile communications. In Field Programmable Logic and Applications (FPL), 2013 23rd International Conference on, pages 1–6. IEEE, 2013.
7. Kitae Jeong, Yuseop Lee, Jaechul Sung, and Seokhie Hong. Fault injection attack on a5/3. In Parallel and Distributed Processing with Applications (ISPA), 2011 IEEE 9th International Symposium on, pages 300–303. IEEE, 2011.
8. Hamid Choukri and Michael Tunstall. Round reduction using faults. FDTC, 5:13–24, 2005.
9. Maghsood Parviz, Seyed Hassan Mousavi, and Saeed Mirahmadi. Key classification attack on block ciphers. arXiv preprint arXiv:1305.4229, 2013.
10. Hidema Tanaka, Chikashi Ishii, and Toshinobu Kaneko. On the strength of kasumi without fl functions against higher order differential attack. In Information Security and CryptologyICISC 2000, pages 14–21. Springer, 2000.
11. Nobuyuki Sugio, Sadayuki HONGO, and Toshinobu KANEKO. A study on higher order differential attack of kasumi. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 90(1):14–21, 2007.
12. Ulrich Kuhn¨. Cryptanalysis of reduced-round misty. In Advances in CryptologyEUROCRYPT 2001, pages 325–339. Springer, 2001.
13. Eli Biham. A fast new des implementation in software. In Fast Software Encryption, pages 260–272. Springer, 1997.
14. Eli Biham, Alex Biryukov, and Adi Shamir. Miss in the middle attacks on idea and khufu. In Fast Software Encryption, pages 124–138. Springer, 1999.
15. Keting Jia, Leibo Li, Christian Rechberger, Jiazhe Chen, and Xiaoyun Wang. Improved cryptanalysis of the block cipher kasumi. In Selected Areas in Cryptography, pages 222–233. Springer, 2013.
16. Teruo Saito. A single-key attack on 6-round kasumi. IACR Cryptology ePrint Archive, 2011:584, 2011.
17. Eli Biham. New types of cryptanalytic attacks using related keys. Journal of Cryptology, 7(4):229–246, 1994.
18. Mark Blunden and Adrian Escott. Related key attacks on reduced round kasumi. In FSE, volume 2355, pages 277–285. Springer, 2001.
19. Jongsung Kim, Guil Kim, Seokhie Hong, Sangjin Lee, and Dowon Hong. The related-key rectangle attack–application to shacal-1. In Information Security and Privacy, pages 123–136. Springer, 2004.
20. Eli Biham, Orr Dunkelman, and Nathan Keller. A related-key rectangle attack on the full kasumi. In Advances in Cryptology-ASIACRYPT 2005, pages 443–461. Springer, 2005.
21. 3GPP TS 55.217 V6.1.0 (2002-12):3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; 3G Security; Specification of the A5/3 Encryption Algorithms for GSM and ECSD, and the GEA3 Encryption Algorithm for GPRS;Document 2: Implementors' Test Data.
22. L Goubin Nicolas T Courtois and G Castagnos. what do des s-boxes say to each other. 2002.

18.

Authors:	**D. Veeraiah, Tejaswi Kavuru, Ebenezer Jangam, P. Victer Paul**
Paper Title:	**Detecting Intrusion Behavior in Communication Networks using Firefly-based Fuzzy Clustering Approach**

Abstract: Intrusion detection system is responsible to identify any suspicious activity in a communication network. Researchers proposed diverse methods for intrusion detection as it is a necessary task to provide security for the communication network and users. In this paper, intru-sion detection system is proposed using the combination of Firefly algorithm and fuzzy clustering. Initially, firefly algorithm is used to optimize the separation between the clusters. The output of firefly algorithm is given to the fuzzy clustering. Fuzzy clustering is used to differentiate the malicious activity from the normal activity. The proposed approach is evaluated on benchmark IDS datasets and the results are encouraging.

Keywords: Fuzzy C-Means (FCM), Firefly Algorithm (FA) and Intrusion Detection System (IDS).

References:

1. Cai, W., Chen, S., Zhang, D," Fast and robust fuzzy c-means clustering algorithms incorporating local information for image segmentation" Pattern recognition, Volume 40, Issue 3, March 2007, Pages 825-838.
2. Mishra, Debasmita, and BighnarajNaik. "Detecting Intrusive Behaviors using Swarm-based Fuzzy Clustering Approach." Soft Computing in Data Analytics. Springer, 2018, pp 837-846.
3. Nayak, Janmenjoy, et al. "An improved firefly fuzzy c-means (FAFCM) algorithm for clustering real world data sets." Advanced Computing, Networking and Informatics-Volume 1. Springer, Cham, 2014. PP 339-348.
4. Zuech, R., Khoshgoftaar, T. M., & Wald, R., "Intrusion detection and big heterogeneous data: a survey", Journal of Big Data, 2015.
5. Kumar, R., & Sharma, D, " HyINT: Signature-Anomaly Intrusion Detection System". In 2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT) (pp. 1-7). IEEE, 2018.
6. Özgür, A., &Erdem, H."A review of KDD99 dataset usage in intrusion detection and machine learning between 2010 and 2015". PeerJPrePrints, 2016.
7. Radhakrishna, V., Kumar, P. V., &Janaki, V. "Novel Similar Temporal System Call Pattern Mining for Efficient Intrusion Detection". J. Journal of Universal Computer Science 22(4):475-493 • July 2016.
8. Aissa, N. B., &Guerroumi, M. "A genetic clustering technique for Anomaly-based Intrusion Detection Systems". In Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD), 2015.
9. Wei Jiang ; Min Yao ; Jun Yan, "Intrusion Detection Based on Improved Fuzzy C-means Algorithm". In 2008 International Symposium on Information Science and Engieering, pp 326-329, IEEE,2008.
10. Asyali, M.H., Colak, D., Demirkaya, O., Inan, M.S. " Gene expression profile classification: a review" . Current Bioinformatics,pp 55-73, 2006.
11. Fister, I., Fister Jr., I., Yang, X.S. and Brest, J. " A Comprehensive Review of Firefly Algorithms". Swarm and Evolutionary Computation,Volume 13, December 2013, Pages 34-46.

96-99

19.

Authors:	**Putta Sujitha, Venkatramaphanikumar S, Krishna Kishore K V**
Paper Title:	**Scale Invariant Face Recognition with Gabor Wavelets and SVM**

Abstract: Face recognition is one of the prominent and accosting research areas in Biometrics. Extraction of discriminating features ensures the higher recognition accuracy even with limited training data. In this work, a novel framework is proposed with state of methods include Gabor wavelets, principal component analysis and support vector machine. Gabor wavelet is applied to extract rotation and scale invariant features from the normalized face image. Further to reduce the number of features principal component analysis is applied. The reduced feature data is classified using support vector machine with RVF kernel. To evaluate the performance of the proposed work benchmark datasets like ORL, Grimace and AR face datasets are used. The proposed methods outperform the existing methods even with limited training.

Keywords: Face recognition; Gabor Wavelet; Principal Component Analysis; Support VectorMachine

References:

1. S. Lee, S. Jung, J. Kwon, and S. Hong, "Face Detection and Recognition Using PCA," pp. 84–87, 1999.
2. S. Venkatramaphanikumar and V. K. Prasad, "Gabor based face recognition with dynamic time warping," 2013 Sixth International Conference on Contemporary Computing (IC3), Noida, 2013, pp. 349-353.doi: 10.1109/IC3.2013.6612218

100-104

3. H. Duan, R. Yan, and K. Lin, “Research on Face Recognition Based on PCA *,” no. 2007, pp. 29–32, 2008.
4. I. Systems, “Face Recognition Based on PCA and SVM Optimized by MEB,” no. 2, 2010.
5. T. Rahman and A. Bhuiyan, “Face Recognition using Gabor Filters,” vol. 2, no. Iccit, pp. 25–27, 2008.
6. L. Huang, A. Shimizu, and H. Kobatake, “Classification-Based Face Detection Using Gabor Filter Features 3 . Gabor Feature Extraction,” pp. 2–7, 2004.
7. F. Bellakhdhar and K. Loukil, “Face recognition approach using Gabor Wavelets , PCA and,” vol. 10, no. 2, pp. 201–207, 2013.
8. G. Majumder, “Gabor-FastICA Feature Extraction for Thermal Face Recognition using Linear Kernel Support Vector Machine,” 2015.
9. S. Meshgini, A. Aghagolzadeh, and H. Seyedarabi, “Automatic face recognition using Gabor filters , kernel principal component analysis and support vector machine Automatic Face Recognition using Gabor Filters , Kernel Principle Component Analysis and Support Vector Machine,” no. March, 2011.
10. I. K. Timotius, T. C. Linasari, I. Setyawan, and A. A. Febrianto, “Face Recognition Using Support Vector Machines and Generalized Discriminant Analysis,” no. 2, pp. 9–11, 2011.
11. “Face Recognition Using Support Vector Machines with the Robust Feature 1,” pp. 49–53, 2003.
12. I. Frolov and R. Sadykhov, “Face Recognition System using SVM-Based Classifier,” no. September, pp. 394–399, 2009.
13. A. Rhesa, S. Siswanto, A. S. Nugroho, and M. Galinium, “Implementation of Face Recognition Algorithm for Biometrics Based Time Attendance System,” 2014 Int. Conf. ICT Smart Soc., pp. 149–154.
14. C. Zhen, “Research about human face recognition technology,” 2009 Int. Conf. Test Meas., vol. 1, pp. 420–422, 2009.

20.

Authors: **Jangam Ebenezer, Maridu Bhargavi, Syed Shareefunnisa**

Paper Title: **Segmentation of lungs from Chest Radiographs using Boundary Maps and Snake Segmentation algorithm**

Abstract: Segmentation of lungs from chest radiographs (CXRs) is an essential pre-processing step performed for disease detection. Numerous techniques were proposed by the researchers to segment lung regions from the chest x-rays. In the past three years, hybrid techniques and deep learning-based techniques were proposed to increase the accuracy of segmentation. In this paper a hybrid method is proposed and evaluated for segmentation of lungs using chan vese snake segmentation method and boundary maps. The proposed method is evaluated using the public JSRT database and Jaccard index of our method is 95.2%, which can be compared to those of other best in class strategies (95.7%). The calculation time of our technique is under 13 s for a 256 × 256 CXR when executed on a standard computer.

Keywords: boundary detection, chest radiograph, chan-vese, lung field segmentation, snake segmentation

References:

1. Dimitris K. Iakovidis, George Papamichalis et al, “Automatic segmentation of the lung fields in portable chest radiographs based on Bézier interpolation of salient control points”,2008
2. Chengdu, Sichuan, et al, “A visual saliency-based method for automatic lung regions extraction in chest radiograph”,2017
3. BulatIbragimov , BostjanLikar, FranjoPernu ˇ s, and Toma ˇ z Vrtovec“et al, “Accurate landmark-based segmentation by incorporating landmark misdetections”,2016
4. Yeqin Shao, YaozongGao,et al “ Hierarchical Lung Field Segmentation With Joint Shape and Appearance Sparse Learning”,2014
5. Dimitris K. Iakovidis,et al, “ Active shape model aided by selective thresholding for lung field segmentation in chest radiographs”2009
6. Tuan Anh Ngo ,GustavoCarneiro,et al, “Lung Segmentation in chest radiographs using distance regularized level set and deep structured learning and inference”2015
7. SemaCandemir*, Stefan Jaeger, et al,et al , “Lung Segmentation in Chest Radiographs Using Anatomical Atlases With Nonrigid Registration”,2013
8. Sema Candemir1, Stefan Jaeger1, Kannappan Palaniappan2,et al “Lung segmentation in digital chest x-ray images using graph cut optimization method”,2013
9. José Silvestre Silva , Augusto Silva et al , “Lung Segmentation Methods in X-ray CT Images”,2000
10. Mira Park1 , Laurence S.Wilson2 , et al “automatic extraction of lung boundaries by a knowledge-based method”,2000
11. LiQianqian , Fu Yingxia ,et al, “An image segmentation method based on the improved snake model”,2013
12. Yoshinori Itai, HyoungseopKim,et al,“A segmentation method of lung areas by using snakes and automatic detection of abnormal shadow on the areas”,2006
13. Y. Y. WONG,s P. C. YUEN , et al , “segmented snake for contour detection”,1998
14. Seokyoon Choi,ChangsooKim,et al “Automatic Initialization Active Contour Model for the Segmentation of the Chest Wall on Chest CT”,2010
15. WenchaoCui , Yi Wang,et al “An Active Contour Model for the Segmentation of Images with Intensity In homogeneities and Bias Field Estimation”2013
16. D. Baswaraj, Dr. A. Govardhan ,et al , “Active Contours and their Utilization at Image Segmentation”,2012
17. Qi Ge a, Liang Xiao a,b, Zhi Hui Wei a,b,et al, “Active contour model for simultaneous MR image segmentation and denoising”,2015
18. XiaohuaQian ,Jiahui Wang , ShuxuGuo ,et al “An active contour model for medical image segmentation with application to brain CT image”,2013
19. Xin-Jiang,Renjie-Zhang, et al “An improved active contours model for image segmentation by level set method”2012
20. Jia Hui Ho, Wen Zheng Lung, et al, “An Active Contour Method for MR Image Segmentation of Anterior Cruciate Ligament(ACL)”,2010
21. Yang, W., Liu, Y., Lin, L., Yun, Z., Lu, Z., Feng, Q., Chen, W.: Lung field segmentation in chest radiographs from boundary maps by a structured edge detector. IEEE journal of biomedical and health informatics 22(3), 842– 851 (2018)
22. Candemir, S., Jaeger, S., Palaniappan, K., Musco, J.P., Singh, R.K., Xue, Z., Karargyris, A., Antani, S., Thoma, G., McDonald, C.J.: Lung segmentation in chest radiographs using anatomical atlases with nonrigid registration. IEEE transactions on medical imaging 33(2), 577– 590 (2014)
23. D. Seghers, D. Loeckx, F. Maes, D. Vandermeulen and P. Suetens, "Minimal Shape and Intensity Cost Path Segmentation," in IEEE Transactions on Medical Imaging, vol. 26, no. 8, pp. 1115-1129, Aug. 2007
24. Van Ginneken, B., Stegmann, M.B., Loog, M.: Segmentation of anatomical structures in chest radiographs using supervised methods: a comparative study on a public database. Medical image analysis 10(1), 19–40 (2006)
25. Shao, Y., Gao, Y., Guo, Y., Shi, Y., Yang, X., Shen, D.: Hierarchical lung field segmentation with joint shape and appearance sparse learning. IEEE transactions on medical imaging 33(9), 1761–1780 (2014)
26. Novikov, A.A., Lenis, D., Major, et al.: Fully convolutional architectures for multi-class segmentation in chest radiographs. IEEE Transactions on Medical Imaging (2018)

21.

Authors: **Shaik Riyaz, Bathula Lakshmi Bhavani, S.Venkatrama Phani Kumar**

Paper Title: **Automatic Speaker Recognition System in Urdu using MFCC & HMM**

Abstract: Speech is one of the most common ways of communication between users and it is also serves to recognize the individual. In this paper, an automatic speaker recognition system with Mel-Frequency Cepstral Coefficients (MFCC) and Hidden Markov Model (HMM) is proposed to recognize the identity of the users using Urdu utterances. MFCC is a very popular feature extraction approach to extract features with human auditory behavior. In the view of feature size and to increase the efficiency, acoustic precise feature extraction is carried with Vector quantization (VQ).

HMM will make the recognition process simple and much more realistic. Performance of the proposed model is evaluated on a dataset with 250 isolated Urdu words uttered by twenty speakers, out of which eight speakers are male and twelve speakers are female. The proposed model outperforms with 96.4% of accuracy when compared with other models.

Keywords: Hidden Markov Model (HMM), Mel-Frequency Cepstral Coefficients (MFCC), Vector Quantization.

References:

1. A. Thalengala and K. Shama (2016), "Study of sub-word acoustical models for Kannada isolated word recognition system," Int. J. Speech Technol., vol. 19, no. 4, pp. 817–826.
2. K. Mannepalli, P. N. Sastry, and M. Suman (2016), "MFCC-GMM based accent recognition system for Telugu speech signals," Int. J. Speech Technol., vol. 19, no. 1, pp. 87–93.
3. P. Mandal, S. Jain, G. Ojha, and A. Shukla (2015), "using deep neural network," vol. 1, no. Mmi, pp. 1241–1245.
4. T. Pruthi, S. Saksena, and P. K. Das (2000), "Swaranjali: Isolated word recognition for Hindi language using VQ and HMM," Int. Conf. Multimed. Process. Syst., pp. 13–15.
5. M. Hassine (2015), "Hybrid Techniques for Arabic Letter Recognition," Int. J. Intell. Inf. Syst., vol. 4, no. 1, p. 27.
6. A. Shaukat, H. Ali, and U. Akram (2016), "Mel Frequency Cepstral Coefficients (MFCCs) Model Dictionary :," 2016 XXI Symp. Signal Process. Images Artif. Vis., pp. 135–139.
7. M. Hossain, M. N. Bhuiyan, and S. Engineer (2013), "Automatic Speech Recognition Technique for Bangla Words," vol. 50, pp. 51–60.
8. P. Upadhyaya, O. Farooq, M. R. Abidi, and Y. V. Varshney (2018), "Continuous Hindi speech recognition model based on Kaldi ASR toolkit," Proc. 2017 Int. Conf. Wirel. Commun. Signal Process. Networking, WiSPNET 2017, vol. 2018–Janua, no. 0, pp. 786–789.
9. R. Bharti and P. Bansal (2015), "Real Time Speaker Recognition System using MFCC and Vector Quantization Technique," Int. J. Comput. Appl., vol. 117, no. 1, pp. 25–31.
10. D. A. Reynolds, A Gaussian mixture modeling approach to text independent speaker identification, Ph.D. thesis, Georgia Institute of Technology, Atlanta, Ga, USA, September 1992.
11. Bharti W. Gawali, Santosh Gaikwad, "Marathi Isolated Word Recognition System using MFCC and DTW Features", ACEE, Vol. 01, No. 01, Mar 2011.
12. K. X. Huang, A. Acero, and H. Wuenon (2005), Spoken Language Processing: A Guide to Theory, Algorithm and System Development, Pearson.
13. Lindasalwa Muda, Mumtaj Begam and I. Elamvazuthi, "Voice Recognition Algorithms using Mel Frequency Cepstral Coefficient (MFCC) and Dynamic Time Warping (DTW) Techniques", Journal of Computing, Volume 2, Issue 3, March 2010, ISSN 2151-9617.
14. R. Bharti and P. Bansal (2015), "Real Time Speaker Recognition System using MFCC and Vector Quantization Technique," Int. J. Comput. Appl., vol. 117, no. 1, pp. 25–31.
15. Charisma A, Hidayat MR, Zainal YB (2017). Speaker Recogn L tion Using Mel-Frequency Cepstrum Coefficients and Sum Square Error. 3rd Int Conf Wirel Telemat 2017;(27-28 July):160-163.
16. Raza A, Hussain S, Sarfraz H. An ASR System for Spontaneous Urdu Speech. Proc Orient …. 2010:1-6. http://www.cslhr.nu. edu.pk/gccs /spring2010/papers/Agha.pdf.
17. Srinivasan A. Speech Recognition Using Hidden Markov Model 2 Analysis using Wave Surfer 3 Vector quantization. 2011;5(79):3943-3948.
18. Aroon A, Dhonde SB. Speaker Recognition System using Gaussian Mixture Model. Int J Comput Appl. 2015;130(14):975-8887.

Authors:	**Ebenezer Jangam, A. Chandrasekhar Rao, Uppalapati Srilakshmi, D. Yakobu**	
Paper Title:	**Segmentation of Lungs from Chest X-ray using Euler number-based thresholding, Morphological operators and Greedy snakes**	

Abstract: A Computer-Aided Diagnosis (CAD) system is required to precisely detect diseases from the given chest x-ray. Lung segmentation is the basic step performed in the detection of diseases from the chest x-ray. In this paper, we use euler number-based thresholding method for lung region segmentation from CXR images. Morphological operations and greedy snakes are used to improve the accuracy of segmentation. The proposed method is experimented on two datasets: JRST and India. JRST contains 247 chest X- rays and India set contains 100 chest X-rays. An overall accuracy of 96.25% was achieved. The proposed method is compared with state of art methods and it gives high accuracy and high performance.

Keywords: Boundary detection ;Chest radiography ; Chan-vese ;Lung field segmentation ;Snake segmentation

References:

1. N. Nakamori, K. Doi, H. MacMAHON, Y. Sasaki, and S. Montner, "Effect of heart-size parameters computed from digital chest radiographs on detection of cardiomegaly: Potential usefulness for computer-aided diagnosis.," Investigative radiology, vol. 26, no. 6, pp. 546–550, 1991.
2. M.-H. Chen and P.-F. Yan, "A fast algorithm to calculate the euler number for binary images," Pattern Recognition Letters, vol. 8, no. 5, pp. 295–297, 1988.
3. S. B. Gray, "Local properties of binary images in two dimensions," IEEE Transactions on Computers, vol. 100, no. 5, pp. 551–561, 1971.
4. L. Wong and H. Ewe, "A study of lung cancer detection using chest x-ray images," in Proc. 3rd APT Telemedicine Workshop, Kuala Lumpur, vol. 3, pp. 210–214, 2005.
5. B. Van Ginneken, B. T. H. Romeny, and M. A. Viergever, "Computer-aided diagnosis in chest radiography: a survey," IEEE Transactions on medical imaging, vol. 20, no. 12, pp. 1228–1241, 2001.
6. H. Becker, W. Nettleton, P. Meyers, J. Sweeney, and C. Nice, "Digital computer determination of a medical diagnostic index directly from chest x-ray images," IEEE Transac tions on Biomedical Engineering, no. 3, pp. 67–72, 1964.
7. D. Hall, G. Lodwick, R. Kruger, S. Dwyer, and J. Townes, "Direct computer diagnosis of rheumatic heart disease 1," Radiology, vol. 101, no. 3, pp. 497–509, 1971.
8. R. P. Kruger, J. R. Townes, D. L. Hall, S. J. Dwyer, and G. S. Lodwick, "Automated radiographic diagnosis via feature extraction and classification of cardiac size and shape descriptors," IEEE Transactions on Biomedical Engineering, no. 3, pp. 174–186, 1972.
9. N. Sezaki and K. Ukena, "Automatic computation of the cardiothoracic ratio with application to mass screening," IEEE Transactions on Biomedical Engineering, no. 4, pp. 248–253, 1973.
10. A. H. Dallal, C. Agarwal, M. R. Arbabshirani, A. Patel, and G. Moore, "Automatic estimation of heart boundaries and cardiothoracic ratio from chest x-ray images," in SPIE Medical Imaging, pp. 101340K– 101340K, International Society for Optics and Photonics, 2017.
11. L. Cong, L. Jiang, G. Chen, and Q. Li, "Fully automated calculation of cardiothoracic ratio in digital chest radiographs," in SPIE Medical Imaging, pp. 1013432–1013432, International Society for Optics and Photonics, 2017.
12. H. MacMahon, K. Doi, H.-P. Chan, M. L. Giger, S. Katsuragawa, and N. Nakamori, "Computer-aided diagnosis in chest radiology," Journal of thoracic imaging, vol. 5, no. 1, pp. 67– 76, 1990.
13. K. Nickol and A. Wade, "Radiographic heart size and cardiothoracic ratio in three ethnic groups: a basis for a simple screening test for cardiac enlargement in men," The British journal of radiology, vol. 55, no. 654, pp. 399–403, 1982.
14. Y. Mensah, K. Mensah, S. Asiamah, H. Gbadamosi, E. Idun, W. Brakohiapa, and A. Oddoye, "Establishing the cardiothoracic ratio using chest radiographs in an indigenous ghanaian population: a simple tool for cardiomegaly screening," Ghana medical journal, vol. 49, no. 3, pp. 159–164, 2015.

22.

114-117

15. J. Shiraishi, S. Katsuragawa, J. Ikezoe, T. Matsumoto, T. Kobayashi, K.-i. Komatsu, M. Matsui, H. Fujita, Y. Kodera, and K. Doi, "Development of a digital image database for chest radiographs with and without a lung nodule: receiver operating characteristic analysis of radiologists' detection of pulmonary nodules,", American Journal of Roentgenology, vol. 174, no. 1, pp. 71–74, 2000.
16. Esmail, Hanif and Oni, Tolu and Thienemann, Friedrich and OmarDavies, Nashreen and Wilkinson, Robert J and Ntsekhe, Mpiko,"Cardio-thoracic ratio is stable, reproducible and has potential as a screening tool for HIV-1 related cardiac disorders in resource poor settings," Public Library of Science, vol. 11,no. 10,pp. 6349,2016.
17. Candemir, Sema and Jaeger, Stefan and Lin, Wilson and Xue, Zhiyun and Antani, Sameer and Thoma, George, " Automatic heart localization and radiographic index computation in chest x- rays," Proc. of SPIE Vol, vol. 9785, pp. 1-17, 2016.
18. Lakhani, Paras and Sundaram, Baskaran, "Deep Learning at Chest Radiography: Automated Classification of Pulmonary Tuberculosis by Using Convolutional Neural Networks," Radiological Society of North America,pp. 16- 26,2017.
19. He, Li-Feng and Chao, Yu-Yan and Suzuki, Kenji," An algorithm for connected-component labeling, hole labeling and Euler number computing", Journal of Computer Science and Technology Springer,vol. 28,no. 3,pp. 468-478, 2013.

23.	**Authors:** **V Ramakrishna Sajja, Sajja Radha Rani , DS Bhupal Naik, K Pratyusha**	
	Paper Title: **Segmentation of Brain Tumor Using Hybrid Approach of Fast Bounding Box and Thresholding in Mri**	
	Abstract: Brain tumor is a deadly sickness and proliferate its cells in an uncontrolled way where it cannot be confidently detected without MRI. MRI image technique provides more accurate results than CT, Ultrasound and X-ray clinical methods. As we realize that Brain tumor is the most hazardous thus its identification ought to be quick and more precise. This can be achieved by processing of automated tumor detection methods on MRI brain images. Noise and delay for detection of tumor will affect the image accuracy. Here we proposed an automatic detection method to easily separate tumor and non-tumor parts of the brain. Anisotropic Diffusion filter applied to eliminate noise information and artifacts from the input brain MRI. Fast Bounding Box (FBB) and Threshold methodologies have been employed for segmentation of the brain tumor at image level of the brain.	**118-123**
	Keywords: Image Segmentation, Anisotropic diffusion filter, Fast bounding box, Naïve Bayes classifier	
	References:	
	1. Haj-Hosseini Neda , Peter Milos , Camilla Hildesj , Martin Hallbeck , Johan Richter , Karin Wrdell , Fluorescence spectroscopy and optical coherence tomography for brain tumor detection, in: SPIE Photonics Europe, Biophotonics: Photonic Solu- tions for Better Health Care, Brussels Belgium, SPIE-International Society for Optical Engineering, 2016, pp. 9887–9896.
2. Y. Liu , A. Carpenter , H. Yuan , Z. Zhou , M. Zalutsky , G. Vaidyanathan , H. Yan , T Vo-Dinh, Goldnanostar as theranostic probe for brain tumor sensitive PET-optical imaging and image-guided specific photothermal therapy, Cancer Res. 76 (14) (2016) 4213 .
3. D.N. Louis , A. Perry , G. Reifenberger , A. von Deimling , D. FigarellaBranger , W.K. Cavenee , H. Ohgaki , O.D. Wiestler , P. Kleihues , D.W. Ellison , The World Health Organization classification of tumors of the central nervous system: a summary, Acta Neuropathol. 131 (6) (2016) 803–820 .
4. S.J. Choi , J.S. Kim , J.H. Kim , S.J. Oh , J.G. Lee , C.J. Kim , Y.S. Ra , J.S Yeo , J.S Ryu , D.H. Moon , [18F] 3-deoxy-3-fluorothymidine PET for the diagnosis and grading of brain tumors, Eur. J. Nuclear Med. Mol. Imag. 32 (6) (2005) 653–659 .
5. V. Janani , P. Meena ,Image segmentation for tumor detection using fuzzy in- ference system, Int. J. Comput. Sci. Mobile Comput. (IJCSMC) 2 (5) (2013) 244–248 .
6. B. Dong , A. Chien , Z. Shen , Frame based segmentation for medical images, Commun. Math. Sci. 32 (4) (2010) 1724–1739 .
7. J. Patel , K. Doshi , A study of segmentation methods for detection of tumor in brain MRI, Adv. Electron Electr. Eng. 4 (3) (2014) 279–284 .
8. M. Rohit , S. Kabade , M.S. Gaikwad , Segmentation of brain tumour and its area calculation in brain MRI images using K-mean clustering and Fuzzy C-mean algorithm, Int. J. Comput. Sci. Eng. Technol. (IJCSET) 4 (5) (2013) 524–531 .
9. H.A. Aslam , T. Ramashri , M.I.A. Ahsan , A new approach to image segmenta- tion for brain tumordetection using pillar K-means algorithm, Int. J. Adv. Res. Comput. Commun. Eng. 2 (3) (2013) 1429–1436 .
10. [10] V. Sehgal , Z. Delproposto , D. Haddar , E.M. Haacke , A.E. Sloan , L.J. Zamorano , G. Barger , J. Hu , Y. Xu , K.P. Prabhakaran , I.R. Elangovan , Susceptibility-weighted imaging to visualize blood products and improve tumor contrast in the study of brain masses, J. Magnet. Reson. Imaging 24 (1) (2006) 41–51 .
11. Vallabhaneni, R. B., & Rajesh, V. (2006). Brain tumor detection using mean shift clustering and glcm features with edge adaptive total variation denoising technique..
12. Chaplot, S., Patnaik, L. M., &Jagannathan, N. R. (2006). Classification of magnetic resonance brain images using wavelets as input to support vector machine and neural network. Biomedical signal processing and control, 1(1), 86-92.
13. Maitra, M., &Chatterjee, A. (2006). A Slantlet transform based intelligent system for magnetic resonance brain image classification. Biomedical Signal Processing and Control, 1(4), 299-306
14. MohammadrezaSoltaninejad ,Guang Yang (2018). Supervised Learning based Multimodal MRI Brain Tumour Segmentation using TextureFeatures from Supervoxels. Computer Methods and Programs in Biomedicine.
15. Zhang, Y., Wu, L., & Wang, S. (2011). Magnetic resonance brain image classification by an improved artificial bee colony algorithm. Progress In Electromagnetics Research, 116, 65-79.
16. Naik, J.; Prof. Patel, Sagar (2013).Tumor Detection and Classification using Decision Tree in Brain MRI. IJEDR , ISSN:2321-9939.
17. AmiraHadjFredj ; JiheneMalek ; El BeyBourennane(2017).Fast oriented Anisotropic Diffusion filter.Design & Test Symposium (IDT).
18. aidyaNathSaha, Hong Zhong(2012).Quick detection of brain tumors and edemas: A bounding box method using symmetry.Volume 36, Issue 2, March 2012, Pages 95-107.
19. V Ramakrishna Sajja and N Gnaneswara Rao, "Segmentation Of Medical Images Using Enhanced K-Means, Wavelet Transformations Andmorphological Operations", 46th international conference on Computers and Industrial Engineering, Tianjin University, Tianjin, China.
20. RaidaHentati ; ManelHentati ; YassineAoudni ; Mohamed Abid(2015).The implementation of basic morphological operations on FPGA using partial reconfiguration, Image Processing, Applications and Systems Conference (IPAS), 2014 First International.	
24.	**Authors:** **I. Leela Priya, P.Victor Paul, T.V.Subrahmanyam**	
	Paper Title: **Applying Distributed Spanning Tree for Energy Efficient Routing in Wireless Sensor Networks**	
	Abstract: Wireless Sensor Networks (WSNs) are spatially distributed network with sensors to observe the environment. WSNs are used in several fields, such as e-health military, manufacturing, etc., One of the vital issues in WSN is an energy efficient routing protocol which significantly affects the general lifetime of the sensor network. Routing assumes a pivotal part in expanding the energy efficiency of a WSN. In the proposed framework, I am utilizing the Distributed Spanning Tree which characterizes every hub as the foundation of a spanning tree. DST will influence the associate to arrange into a layered structure to enhance the successful routing and information accessibility. For any correspondence procedure on a peer network, the extensive number of message pass required on the grounds that the message may experience a hub numerous circumstances. Keeping in mind the quantity of passing message required for successful correspondence in any peer system, we take after an interconnected structure called DST. In this paper, we propose a strategy to detail DST in peer organize and decided productivity change utilizing DST.	**124-130**

Keywords: Wireless Sensor Network, Routing, Energy efficiency, Distributed Spanning Tree

References:

1. Payal Khurana Batra, Krishna Kant, An Energy Efficient GA based Routing Algorithm for Two-tier Sensor Networks Jaypee Institute of Information Technology, Noida, India, 2016 IEEE.
2. Kartik Chawda and Deepmala Gorana, A survey of Energy Efficient Routing Protocol in MANET, Parul Institute of Engineering and Technology, Vadodara, Gujarat, 2015 IEEE, pp.953-957.
3. Siddhant dodke, P. B. Mane, M.S. Vanjale, A survey on energy efficient routing protocol for Manet, A.I.S.S.M.S. Institute of Information Technology, Pune, India, 978-1-5090-2399-8/16/$31.00 2016 IEEE, pp.160-164.
4. Sachi N. Shah and Rutvij H. Jhaveri A Survey of Various Energy Efficient Secure Routing Approaches for Wireless Adhoc Networks, SVM Institute of technology SVM Institute of technology Bharuch 392-001, Gujarat, India, 978-1-4673-7910-6/15/$31.00c 2015 IEEE, pp. 1424-1429.
5. Muhammad Zain-ul-Abidin, Muhammad, Hammad Maqsood, Improved genetic algorithm based energy efficient routing in two-tiered wireless sensor networks, 1COMSATS Institute of Information Technology, Islamabad, 44000, Pakistan,2157- 0426.
6. Nagendra Sah, Performance Evaluation of Energy Efficient Routing in Wireless Sensor Networks, PEC University of Technology, Chandigarh, UT, India, 978-1-5090-4620-1/16/2016 IEEE, pp.1048-1053.
7. Indrajit Banerjee, Prasenjit Chanak, Biplab Kumar Sikdar, Hafizur Rahaman, Energy Efficient Routing in Wireless Sensor Networks, Bengal Engineering and Science University, Shibpur, Howrah, India, 978-1-4244-8943-5/11/26.002011IEEE, pp.92 − 97.Seifemichael, Amsalu,Wondimu,Zegeye,DerejeHailemariam, YacobAstatke, FarzadMoazzami,1 − 5090 − 1496 − 5/16/31.002016IEEE.
8. P. Victer Paul, N. Saravanan, S.K.V. Jayakumar, P. Dhavachelvan and R. Baskaran, QoS enhancements for global replication management in peer to peer networks, Future Generation Computer Systems, Elsevier, Volume 28, Issue 3, March 2012, Pages 573582. ISSN: 0167-739X.
9. P. Victer Paul, D. Rajaguru, N. Saravanan, R. Baskaran and P. Dhavachelvan, Efficient service cache management in mobile P2P networks, Future Generation Computer Systems, Elsevier, Volume 29, Issue 6, August 2013, Pages 15051521. ISSN: 0167-739X.
10. S. Sangavi, A. Vanmathi, R. Gayathri, R. Raju, P. Victer Paul, P. Dhavachelvan,An Enhanced DACHE Model for the MapReduce Environment, Procedia Computer Science, Elsevier, Volume 50, 2015, Pages 579-584, ISSN 1877-0509.
11. B. Saraladevi, N. Pazhaniraja, P. Victer Paul, M.S. Saleem-Basha, P. Dhavachelvan, Big Data and Hadoop-a Study in Security Perspective, Procedia Computer Science, Elsevier, Volume 50, 2015, Pages 596-601, ISSN 1877-0509.
12. . S. Saranya, M. Sarumathi, B. Swathi, P. Victer Paul, S. Sampath Kumar, T. Vengattaraman, Dynamic Preclusion of Encroachment in Hadoop Distributed File System, Procedia Computer Science, Elsevier, Volume 50, 2015, Pages 531-536, ISSN 1877-0509.
13. P. Victer Paul, A. Ramalingam, R. Baskaran, P. Dhavachelvan, K. Vivekanandan and R. Subramanian, A new population seeding technique for permutation-coded Genetic Algorithm: Service transfer approach, Journal of Computational Science, Elsevier, Issue 5, 2014, pp. 277297. ISSN: 1877-7503. Impact Factor: 1.67 [SCI, Scopus Indexed].
14. P. Victer Paul, N. Moganarangan, S. Sampath Kumar, R. Raju, T. Vengattaraman, P. Dhavachelvan, performance analyses over population seeding techniques of the permutation-coded genetic algorithm: An empirical study based on traveling salesman problems, Applied Soft Computing, Elsevier, Volume 32, July 2015, pp. 383402.
15. P. Victer Paul, T. Vengattaraman, P. Dhavachelvan, Improving efficiency of Peer Network Applications by formulating Distributed Spanning Tree, Third International Conference on Emerging Trends in Engineering & Technology (ICETET- 2010), IEEE, India, May 2010. pp. 813-818.
16. I. Leela Priya, A. Divya Jyothi, Redundant Actor Primarily based Multi- Hollow Restoration System for Mobile Sensor Networks in International Journal of Control Theory And Applications 9(23):71-79,2016,ISSN:0974-5572,Series publications, 2016.

25.

Authors: **Sandhi Kranthi Reddy, T Maruthi Padmaja**

Paper Title: **Non Machine and Machine Learning Spam Filtering Techniques**

Abstract: Email is an effective communication method used in most of the organizations which is abused by spam. Spam email is an unwanted mail which leads to phishing websites. On an average a user on internet may get 10-15 spam emails per day. There are many effects of spam emails such as fills up user's inbox, consumes resources such as disk space and bandwidth, etc., may also contain attachments which corrupts users data. It is difficult to user to always check and decide whether the email is spam or not. Spam filtering mechanisms are used to detect spam emails. In this paper a detailed review is given how machine and non-machine learning techniques are used to detect spam emails.

Keywords: Spam, Ham, Spam Filtering Mechanism.

References:

1. Jyh-Jian Sheu1, KoTsung Chu2 An efficient incremental learning mechanism for tracking concept drift in spam filtering, PloS ONE 12(2): e0171518, dio:10, 1371/journal,pone.0171518.
2. Xin Liu, Pingjun, Zou, Weishan Zhang, Jiehan Zhou "Research Article CPSFS: A Credible Personalized Spam Filtering Scheme by Crowd sourcing", Hindawi, Wireless Communications and Mobile Computing Volume 2017, Article ID 1457870, 9 pages.
3. Saima Hasib, Mahak Motwani, Amit Saxena Anti-Spam Methodologies: A Comparative Study, IJCSIT, Vol. 3 (6), 2012,5341-5345
4. J. Jaeyeon and S Emil, "An Emprical Study of Spam Traffic and the use of DNS Black Lists", in Proceedings of the 4th ACM SIGCOMM Conference on Internet measurement, pp.370-375, October-2004.
5. William W. Cohen Learning Rules that Classify E-Mail, AAAI Technical Report SS-96-05.
6. Harris Drucker, Senior Member, IEEE, Donghui Wu,Student Member, IEEE, and Vladimir N. Vapnik Support Vector Machines for Spam Categorization, IEEE TRANSACTIONS ON NEURAL NETWORKS, VOL. 10, NO. 5, SEPTEMBER 1999
7. Xavier Carreras and Llui's Marque Boosting Trees for Anti-Spam Email Filtering, RANLP-2001, pp. 58-64, Bulgaria, 2001 Jyh-Jian Sheu, KoTsung Chu An Efficient Spam Filtering Method by Analyzing E-Mail's Header Session Only, International Journal of Innovative Computing, Information and Control ICIC International c 2009 ISSN 1349-4198 Volume 5, Number 11(A), November 2009.
8. Chih-Chin Lai An empirical study of three machine learning methods for spam filtering, Knowledge-Based Systems 20 (2007) 249–254, Elsevier.
9. Chih-ChienWang Sheng-YiChen "Using header session messages to anti-spamming" , Elsevier, Computers & Security, Volume 26, issue 5 August-2007, Pages: 381-390

26.

Authors: **A.Sravya, K.Dinesh, S.Shiva Prasad**

Paper Title: **A Density based Deceptive data Detection in VANET**

Abstract: The wireless network is the backbone of the VANET has shown more deceptive data send by malicious node. Those deceptive data may lead to unreliable wireless communication and also inaccurate sensing at the data. Therefore, it is important for detecting the deceptive data and improve the quality of the data in the VANET. So, in order to find those deceptive data in the VANET, there are different types in security aspects and reputation-based approaches, it is not sufficient for managing the quality of data in highly distributed and dynamic environment like VANET hence new algorithm had been proposed for verifying the deceptive data in VANET. The aim of the proposed algorithm is to find the deceptive data about the accident report generated in the VANET. So, as per the VANET mechanism if the accident happened, the accident report is sent from the accident vehicle or node through their sensor to the nearby vehicle and RSU [Road side unit]. The accident report is passed to nearby vehicle through the inter-

vehicle communication or vehicle-infrastructure communication. Then the communication is divided into two types such as vehicle to vehicle communication (V2V) and vehicle-infrastructure communication (V2I). The density based deceptive data detection on VANET can be divided into two categories such as dense and spare parts. The dense parts use the clustering technique for finding the deceptive data over the communication whereas the sparse parts utilize the new technique by categories the nodes into two types such as private and public vehicle.

Keywords: clustering, deceptive data algorithm, dense and sparse data, VANET.

References:

1. Nafi, N. S., & Khan, J. Y. (2012). A VANET based intelligent road traffic signalling system. Australasian Telecommunication Networks and Applications Conference, ATNAC 2012. http://doi.org/10.1109/ATNAC.2012.6398066
2. Ucar, S., Ergen, S. C., & Ozkasap, O. (2016). Multihop-cluster-based IEEE 802.11 p and LTE hybrid architecture for VANET safety message dissemination. IEEE Transactions on Vehicular Technology, 65(4), 2621-2636.
3. AlMheiri, S. M., & AlQamzi, H. S. (2015, February). MANETs and VANETs clustering algorithms: A survey. In GCC Conference and Exhibition (GCCCE), 2015 IEEE 8th (pp. 1-6). IEEE.http://doi.org/10.1109/IEEEGCC.2015.7060048
4. Chai, R., Ge, X., Hu, X., & Yang, B. (2014, August). Work in progress paper: Utility based clustering algorithm for VANET. In Communications and Networking in China (CHINACOM), 2014 9th International Conference on (pp. 187-190). IEEE.
5. Conference on Communications and Networking in China, CHINACOM 2014, 187 190. http://doi.org/10.1109/CHINACOM.2014.7054283
6. Wang, C., Li, X., Li, F., & Lu, H. (2014, September). A mobility clustering-based roadside units deployment for VANET. In Network Operations and Management Symposium (APNOMS), 2014 16th Asia-Pacific (pp. 1-6). IEEE.
7. Sood, M., & Kanwar, S. (2014). Clustering in MANET and VANET: A survey. 2014 International Conference on Circuits, Systems, Communication and Information Technology Applications, CSCITA 2014, 375–380. http://doi.org/10.1109/CSCITA.2014.6839290
8. Chai, R., Yang, B., Li, L., Sun, X., Chen, Q., Rong Chai, … Qianbin Chen. (2013). Clustering-based data transmission algorithms for VANET. 2013 International Conference on Wireless Communications and Signal Processing, (61102063), 1–6.
9. Yang, Y., Li, H., & Huang, Q. (2013). Mobility management in VANET. Proceedings - 2013 Wireless and Optical Communications Conference, WOCC 2013, 298–303. http://doi.org/10.1109/WOCC.2013.6676326
10. Sahoo, R. R., Panda, R., Behera, D. K., & Naskar, M. K. (2012). A trust based clustering with Ant Colony Routing in VANET. 2012 3rd International Conference on Computing, Communication and Networking Technologies, ICCCNT 2012, (July). http://doi.org/10.1109/ICCCNT.2012.6395939
11. Chim, T. W., Yiu, S. M., Hui, L. C. K., & O.k. Li, V. (2014). VSPN: VANET-based secure and privacy-preserving navigation. IEEE Transactions on Computers, 63(2), 510–524. http://doi.org/10.1109/TC.2012.188
12. Janech, J., Lieskovsky, A., & Krsak, E. (2012). Comparation of strategies for data replication in VANET environment. Proceedings - 26th IEEE International Conference on Advanced Information Networking and Applications Workshops, WAINA 2012, 575–580. http://doi.org/10.1109/WAINA.2012.179
13. Bugti, S. A., Chunhe, X., Wie, L., & Hussain, E. (2011). Cluster based addressing scheme in VANET (CANVET stateful addressing approach). 2011 IEEE 3rd International Conference on Communication Software and Networks, ICCSN 2011, 450–454. http://doi.org/10.1109/ICCSN.2011.6013754
14. Song, T., Xia, W., Song, T., & Shen, L. (2010). A cluster-based directional routing protocol in VANET. International Conference on Communication Technology Proceedings, ICCT, (2008), 1172–1175. http://doi.org/10.1109/ICCT.2010.5689132
15. Luo, Y. L. Y., Zhang, W. Z. W., & Hu, Y. H. Y. (2010). A New Cluster Based Routing Protocol for VANET. Networks Security Wireless Communications
16. Sha, K., Wang, S., & Shi, W. (2010). RD4: Role-differentiated cooperative deceptive data detection and filtering in VANETs. IEEE Transactions on Vehicular Technology, 59(3), 1183–1190. https://doi.org/10.1109/TVT.2010.2040400

Authors:	**Shiva Prasad S, Ramaswamyreddy A, Dinesh K, Veeraiah D**	
Paper Title:	**Efficient datamining model for Prediction of Chronic Kidney Disease Using wrapper methods**	

Abstract: In the present generation, majority of the people are highly affected by kidney diseases. Among them, chronic kidney is the most common life threatening disease which can be prevented by early detection. Histological grade in chronic kidney disease provides clinically important prognostic information. Therefore, machine learning techniques are applied on the information collected from previously diagnosed patients in order to discover the knowledge and patterns for making precise predictions. A large number of features exist in the raw data in which some may cause low information and error; hence feature selection techniques can be used to retrieve useful subset of features and to improve the computation performance. In this manuscript we use a set of Filter, Wrapper methods followed by Bagging and Boosting models with parameter tuning technique to classify chronic kidney disease. Capability of Bagging and Boosting classifiers are compared and the best ensemble classifier which attains high stability with better promising results is identified.

Keywords: Bagging; Boosting; Chronic Kidney; Filter methods; Wrapper methods..

References:

27.

1. Boukenze, Basma, AbdelkrimHaqiq, and HajarMousannif. "Predicting Chronic Kidney Failure Disease Using Data Mining Techniques."In Advances in Ubiquitous Networking 2, pp. 701-712.Springer Singapore, 2017.
2. Tazin, Nusrat, ShahedAnzarusSabab, and MuhammedTawfiqChowdhury. "Diagnosis of Chronic Kidney Disease using effective classification and feature selection technique."In Medical Engineering, Health Informatics and Technology (MediTec), 2016 International Conference on, pp. 1-6.IEEE, 2016.
3. Kunwar, Veenita, KhushbooChandel, A. SaiSabitha, and AbhayBansal. "Chronic Kidney Disease analysis using data mining classification techniques." In Cloud System and Big Data Engineering (Confluence), 2016 6th International Conference, pp. 300-305. IEEE, 2016.
4. Chetty, Naganna, Kunwar Singh Vaisla, and Sithu D. Sudarsan. "Role of attributes selection in classification of Chronic Kidney Disease patients."In Computing, Communication and Security (ICCCS), 2015 International Conference on, pp. 1-6.IEEE, 2015.
5. Sedighi, Zeinab, HosseinEbrahimpour-Komleh, and SeyedJalaleddinMousavirad. "Featue selection effects on kidney desease analysis." In Technology, Communication and Knowledge (ICTCK), 2015 International Congress on, pp. 455-459.IEEE, 2015.
6. Jena, Lambodar, and Narendra Ku Kamila. "Distributed data mining classification algorithms for prediction of chronic kidney disease."International Journal of Emerging Research in Management and Technology 4, no. 11 (2015): 110-8.
7. Vijayarani, S., and S. Dhayanand. "Data mining classification algorithms for kidney disease prediction."International Journal on Cybernetics and Informatics (IJCI) (2015).
8. Baby, P. Swathi, and T. Panduranga Vital. "Statistical analysis and predicting kidney diseases using machine learning algorithms." In International Journal of Engineering Research and Technology, vol. 4, no. 07, July-2015.IJERT, 2015.
9. Rubini, L. Jerlin, and P. Eswaran. "Generating comparative analysis of early stage prediction of Chronic Kidney Disease." International OPEN ACCESS Journal Of Modern Engineering Research 5, no. 7 (2015): 49-55.
10. Fauci AS, Braunwald E, Kasper DL & Hauser SL (2008), Principles of Harrison's Internal Medicine, Vol. 9, 17thedn. McGraw-Hill, New York, NY, pp.2275–2304.

141-146

11. Kim HS & Jeong HS (2007), A nurse short message service by cellular phone in type-2 diabetic patients for six months. Journal of Clinical Nursing 16, 1082–1087.
12. Lee JR, Kim SA, Yoo JW & Kang YK (2007), The present status of diabetes education and the role recognition as a diabetes educator of nurses in korea. Diabetes Research and Clinical Practice 77, 199–204.
13. McMahon GT, Gomes HE, Hohne SH, Hu TM, Levine BA & Conlin PR (2005), Web-based care management in patients with poorly controlled diabetes. Diabetes Care 28, 1624–1629.

28.	**Authors:**	**Jyostna Devi Bodapati, B Suvarna, Veeranjaneyulu N**
	Paper Title:	**Role of Deep neural features vs hand crafted features for hand written digit recognition**

Abstract: Handwritten digit recognition can be considered as a subtask of hand written character recognition, a broad area where a given character is recognized automatically by a machine. The major challenges of hand written character recognition are: writing style and size of characters varies from person to person. With the advances in machine learning algorithms the success of handwritten character recognition is improved. In this task we have considered hand written digit recognition, as there are plenty of real-time applications like amount identification on Bank cheques, recognizing zip codes on postal letters to mention few. Recent literature shows that performance of Convolution Neural Network (CNN) is promising on images. We have used neural network based models for hand written digit classification. Initially the model is trained on MNIST dataset. In this work we have tried to identify the effect of different types of features on the performance of the model.

Keywords: Deep learning, CNN, hand crafted features, hand written character recognition, pooling, convolution, dropout

References:

1. Md Zahangir Alom, Paheding Sidike, Mahmudul Hasan, Tarek. Taha, and Vijayan K. Asari, " Handwritten Bangla Character Recognition Using the State-of-the-Art Deep Convolutional Neural Networks", 2018.
2. Tuba, Eva, Milan Tuba, and Dana Simian. "Handwritten digit recognition by support vector machine optimized by bat algorithm.", WSCG (2016).
3. Djork-Arne Clevert, Thomas Unterthiner & Sepp Hochreiter , "fast and accurate deep network learning by exponential linear units (elus)", ICLR 2016
4. Jyostna Devi Bodapati et al, "A novel face recognition system based on combining eigenfaces with fisher faces using wavelets", Procedia Computer Science2 (2010): 44-51.
5. Jyostna devi Bodapati et al, "scene classification using support vector machines with lda", Journal of Theoretical & Applied Information Technology. 2014 May 31;63(3).
6. Zhang, Hao, et al. "SVM-KNN: Discriminative nearest neighbor classification for visual category recognition." Computer Vision and Pattern Recognition, 2006 IEEE Computer Society Conference on. Vol. 2. IEEE, 2006.
7. Al-Shalabi, Riyad, and Rasha Obeidat. "Improving KNN Arabic text classification with n-grams based document indexing." Proceedings of the Sixth International Conference on Informatics and Systems, Cairo, Egypt. 2008.
8. Ilmi, Nurul, W. Tjokorda Agung Budi, and R. Kurniawan Nur. "Handwriting digit recognition using local binary pattern variance and K-Nearest Neighbor classification." Information and Communication Technology (ICoICT), 2016 4th International Conference on. IEEE, 2016.
9. Wu, Chunpeng, et al. "Handwritten character recognition by alternately trained relaxation convolutional neural network." Frontiers in Handwriting Recognition (ICFHR), 2014 14th International Conference on. IEEE, 2014.
10. Mustafa S. Kadhm, Alia Karim Abdul Hassan, "Handwriting Word Recognition Based on SVM Classifier", International Journal of Advanced Computer Science and Applications, Vol. 6, No. 11, 2015
11. Jyostna devi Bodapati et al, "An intelligent authentication system using wavelet fusion of K-PCA, R-LDA", IEEE International Conference on Communication Control and Computing Technologies (ICCCCT), 437-441, 2010,
12. Pradhan, Debasish "Enhancing LBP Features for Object Recognition using Spatial Pyramid Kernel." (2017)
13. Harris, Samuel, et al. "LBP features for hand-held ground penetrating radar." Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXII. Vol. 10182. International Society for Optics and Photonics, 2017.
14. Hsu, Yu-Liang, et al. "An inertial pen with dynamic time warping recognizer for handwriting and gesture recognition." IEEE Sensors Journal 15.1 (2015): 154-163.
15. Cireşan, Dan Claudiu, et al. "Deep, big, simple neural nets for handwritten digit recognition." Neural computation 22.12 (2010): 3207-3220.
16. Visin, Francesco, et al. "Renet: A recurrent neural network based alternative to convolutional networks." arXiv preprint arXiv:1505.00393 (2015).

147-152

29.	**Authors:**	**V Prasad, G N V Raja Reddy**
	Paper Title:	**Enhanced Approach on Permissible Data Sets Using Swarm and Genetic Intelligence**

Abstract: This work focuses on the artificial way of analysing large datasets using genetic and evolutionary algorithms with multiple features i.e., algorithms are embedded with bin packing problems which generates Hybrid particle swarm optimization (HPSO), Multi spatial genetic algorithm (MSGA) which are further applied on a cancer dataset for classification of bins in the datasets. Random population generated by these algorithms, the fitness values, evaluation procedure plays a vital role. The algorithms increase the count of features and prune for obtaining the optimistic values with random machine learning protocols and the comparative analysis as shown in the graphs and tables. The results are analysed and compared to obtain the most suitable and efficient algorithm for the permissible dataset.

Keywords: Evolutionary Computing, Natural Computing, Hybrid Swarm, Multi Spatial & Comparative Analysis

References:

1. Goodman, E.D., Tetelbaum, A.Y. and Kureichik, V.M. (1994)'A Genetic Algorithm Approach to Compaction, Bin-Packing, and Nesting Problems', Tech. Report 940702, Case Center for Computer-Aided Engineering and Manufacturing, Michigan State University.
2. S. Rajasekaran, G. A. Vijaylakshmi Pai., Neural Networks, Fuzzy Logic, and Genetic Algorithms Synthesis and Application.John Levine and Frederick Ducatelle, Ant Colony Optimisation and Local Search for Bin Packing and Cutting Stock Problems, School of Informatics, University of Edinburgh, Edinburgh EH1 1HN.
3. Levine, J. and Ducatelle, F. (2004) 'Ant Colony Optimisation and Local Search for Bin Packing and Cutting Stock Problems', Journal of the Operational Research Society, Special Issue on Local Search, Vol. 55, No. 7, pp. 705–716.
4. ÖYLEK, A. (2015). Bicriteria Bin Packing Problem with Deviation based objectives (Doctoral dissertation, MIDDLE EAST TECHNICAL UNIVERSITY).
5. Liu, D.S., Tan, K.C., Huang, S.Y., Goh, C.K., & Ho, W.K. (2008). On solving multi objective bin packing problems using evolutionary particle swarm optimization. European Journal of Operational Research, 190, 357-382.

153-159

6. Jourdan, L., Basseur, M., & Talbi, E. G. (2009). Hybridizing exact methods and metaheuristics: A taxonomy. European Journal of Operational Research, 199(3), 620-629.
7. Wäscher, G., Haußner, H., & Schumann, H. (2007). An improved typology of cutting and packing problems. European journal of operational research, 183(3), 1109-1130.
8. Chazelle, "The Bottomn-Left Bin-Packing Heuristic: An Efficient Implementation," in IEEE Transactions on Computers, vol. C-32, no. 8, pp. 697-707, Aug. 1983.
9. Li, Z., & Wu, G. (2016, March). Optimizing VM live migration strategy based on migration time cost modeling. In Proceedings of the 2016 Symposium on Architectures for Networking and Communications Systems (pp. 99-109). ACM.
10. H. A. Sanusi, A. Zubair, R. O. Oladele, Comparative Assessment of Genetic and Memetic Algorithms, VOL. 2, NO. 10, October 2011 ISSN 2079-8407 Journal of Emerging Trends in Computing and Information Sciences ©2009-2011 CIS Journal.
11. Liu, D., Tan, K., Huang, C. and Ho, W. (2008) 'On solving multi objective bin packing problems using evolutionary particle swarm optimization', European Journal of Operational Research, Vol.190, No. 2, pp.357–382.
12. Andrea Lodi, Silvano Martello∗, Daniele Vigo, Recent advances on two-dimensional bin packing problems. Received 4 October 1999; received in revised form 1 June 2001; accepted 25 June 2001. Discrete Applied Mathematics 123 (2002) 379 – 396.
13. Fernandez, A., Gil, C., Marquez, A.L., Banos, R., Montoya, M. G. and Alcayde, A. (2010). A new memetic algorithm for the 2D bin-packing problem with rotations, Disturb. computing and artifice. Intell.,pp.541-548.
14. Sugimoto, H., Lu, B. L., & Yamamoto, H. (1993). A Study on an Improvement of Reliability of GA for the Discrete Structural Optimization. Doboku Gakkai Ronbunshu, 1993(471), 67-76.
15. G. Gutin, T. Jensen, A. Yeo, On-line bin packing with two item sizes, Algorithmic Operations Research 1 (2) (2006)
16. Chu, G. G. (2011). Improving combinatorial optimization(Doctoral dissertation, University of Melbourne, Department of Computer Science and Software Engineering).

30.

Authors: **R.K.Krishna, Dr.B.Seetha Ramanjaneyulu**

Paper Title: **A Hybrid Clustering based on Overlapping and Dual Path Routing Technique for Improving Lifetimeof WirelessSensor Networks.**

Abstract: It is known that Clustering and Routing along with appropriate Node placement substantially improves the overall lifetime of wireless sensor network. Optimized clustering and routing technique along with intelligent node placement is a good technique for reducing energy consumption and prolonging the lifetime. In this paper combination of different techniques have been used for setting an up a model that substantially prolongs the lifetime in Wireless Sensor Networks. In this model clustering is implemented using the overlapping concept and routing is done by selecting the two best paths based on the calculation of the reluctance and distance. Data is transmitted using both the paths. Simulation results indicate that the results obtained by the proposed method are better in comparison with the existing techniques

Keywords: Optimized Clustering, Routing, Intelligent Node Placement, Energy Consumption, Lifetime, Wireless Sensor Networks, Overlapping Concept, Reluctance.

References:

1. Bo-Chao Cheng, Hsi-HsunYeh, and Ping-Hai Hsu "Schedulability Analysis for Hard Network Lifetime Wireless Sensor Networks with High Energy First Clustering" IEEE TRANSACTIONS ON RELIABILITY, vol. 60, no. 3, September 2011, pp.675-687.
2. Declan T. Delaney, Russell Higgs, and Gregory M. P. O'Hare, "A Stable Routing Framework for Tree-Based Routing Structures in WSNs", IEEE SENSORS JOURNAL, vol. 14, no. 10, October 2014, pp.2812-2831.
3. Hiren Kumar Deva Sarma, Rajib Mall, and AvijitKar, "E2R2: Energy-Efficient and Reliable Routing for Mobile Wireless Sensor Networks", IEEE SYSTEMS JOURNAL 2015, pp.3533-3547.
4. Saman Siavoshi, Yousef Seifi Kavian, Mehdi Tarhani, Habib FalariRashvand"Geographical multi-layered energy-efficient clustering scheme for ad hoc distributed wireless sensor networks" IET Wireless Sensor SystemsIET Wirel. Sens. Syst., 2016, VOL. 6, ISSUE. 1, pp. 1–9.
5. Chun-Wei Tsai, Tzung-Pei Hong, and Guo-NengShiu "Meta heuristics for the Lifetime of WSN: a Review" IEEE SENSORS JOURNAL, vol. 16, no.9, May, 2016, pp.2812-2831.
6. Xuxun Liu,"A Deployment Strategy for Multiple Types of Requirements in Wireless Sensor Networks", IEEE TRANSACTIONS ON CYBERNETICS, vol. 45, no.10, October 2015 pp2364-2376.
7. Hari Prabhat Gupta and S.V Rao "Demand-Based Coverage and Connectivity Preserving Routing in Wireless Sensor Networks" IEEE SYSTEMS JOURNAL, vol.10, no. 4, December 2016, pp. 1380-1389.
8. DongyaoJia, Huaihua Zhu, Shengxiong Zhou, and Po Hu" Dynamic Cluster Head Selection Method for Wireless Sensor Network" IEEE SENSORS JOURNAL, vol. 16, no.8, April 15, 2016 pp.2746-2754.
9. Yuan Hu, Yugang Niu, James Lam, and Zhan Shu"An Energy-Efficient Adaptive Overlapping Clustering Method for Dynamic Continuous Monitoring in WSNs" IEEE SENSORS JOURNAL,Vol.17,No.3, February 1, 2017, pp.834-846.
10. Rob van Glabbeek,Peter Höfner,Marius Portmann,Wee Lum Tan" Modeling and verifying the AODV routing protocol "Distributed Computing,August 2016, Volume 29, Issue 4, pp. 279–31.

160-165

31.

Authors: **K.Leela Rani, K.Sowjanya, M.Sekhar, Sk.Khamuruddeen**

Paper Title: **Triple Frequency U-Slot Antenna for 5G and Satellite Communications**

Abstract: The Triple frequency antenna is proposed in this paper using micro strip line feeding technique. The proposed antenna with U-slot works in S-band and C-band frequencies operating at 2.5GHz, 5.1GHz and 7.3GHz which are mostly used for 5G and satellite communications. Slots are inserted in patch and ground to obtain triple frequency characteristics. These three frequencies results in good return loss below -10dB and with VSWR below 2. Various parameters for the operating frequencies of 2.5GHz, 5.1GHz and 7.3GHz are presented in this paper.

Keywords: Triple frequency, U-slot, 5G.

References:

1. Syed Muzahir Abbas, Yogesh Ranga, Anand K.Verma and Karu P. Essele, "A Simple Ultra Wideband Printed Antenna with High Band Rejection and Wide Radiation patterns" in IEEE Transactions on Antennas and Propagation, VOL. 62, NO. 9 SEP 2014.
2. S. Nikolaou, K. Boyon, Y. S. Kim, J. Papapolymerou, and M. M. Tentzeris, "CPW-fed ultra wideband (UWB) monopoles with band rejection characteristics on ultra-thin organic substrate," in proc AsiaPacific Microwave Conf. (APMC), 2006, pp. 2010–2013.
3. Sekhar M, Siddaiah P "Quad Band Triangular Ring Slot Antenna" International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015 1637, ISSN 2229-5518.
4. Dr. Virendra Swarup Group of Institutions, Unnao, India, August 01-02, 2014.
5. Sekhar, M., and P. Siddaiah. "Performance of Feed on Dual Frequency Antenna in Ka-Band." International Journal Of Innovative Research In Electrical, Electronics, Instrumentation And Control Engineering (IJIREEICE) 2.5 (2014): 2321-2004.
6. Sekhar, M., S. Nagakishore Bhavanam, and P. Siddaiah. "Triple frequency circular patch antenna." 2014 IEEE International Conference on

166-170

Computational Intelligence and Computing Research. IEEE, 2014.
7. Y. F. Weng, S. W. Cheung, and T. I. Yuk, “Ultrawideband antenna using CPW resonators for dual-band notched characteristic,” in Proc. Int. Conf. on Wireless Commun. and Signal Processing (WCSP), 2009, pp. 1–4.
8. Sekhar, M., and P. Siddaiah. "Comparison of Dual Frequency Antenna in Ka-Band with and without Shorting pin." International Journal of Modern Communication Technologies and Research 2.8.
a J. Bahl and P. Bhartia, “Microstrip Antennas”Norwood, MA, Artech House, 1980.
9. Aditi Mandal, Antara Ghosal, Anurima Majumdar, “Analysis of feeding techniques of rectangular microstrip antenna” 978-1-4673-2193-8/12/$31.00 ©2012 IEEE
10. Virga, Kathleen L., and Yahya Rahmat-Samii. "Low-profile enhanced-bandwidth PIFA antennas for wireless communications packaging." IEEE Transactions on Microwave Theory and Techniques 45.10 (1997): 1879-1888.
11. Long, S. A., and M. Walton. "A dual-frequency stacked circular-disc antenna." IEEE Transactions on Antennas and propagation 27.2 (1979): 270-273.
12. Croq, Frederic, and David M. Pozar. "Multifrequency operation of microstrip antennas using aperture-coupled parallel resonators." IEEE Transactions on Antennas and Propagation 40.11 (1992): 1367-1374.
13. Davidson, S. E., S. A. Long, and W. F. Richards, “Dual-band microstrip antenna with monolithic reactive loading,” Electron. Lett., Vol. 21, No. 21, 936–937,1985.
14. Waterhouse, R. B. and N. V. Shuley, “Dual-frequency microstrip rectangular patches,” Electron. Lett., Vol. 28, No. 7, 606–607, 1992.
15. Serrano-Vaello, A. and D. Sanchez-Hernandez,“Printed antennas for dual-band GSM/DCS 1800 mobile handsets,” Electronics Letters, Vol. 34, No. 2,140–141, 1998.
16. Humberto C. C. Fernandes, José L. da Silva and Almir Souza e S. Neto, “Multi-frequency Microstrip Antenna Using Defected Ground Structures With Band-Notched Characteristics”, simpósio brasileiro de telecomunicacoes e processamento de sinais – SBRT2017, 3-6 de setembro de 2017, sao pedro
17. Amit Singh Bhadouria, Mithilesh Kumar “Multiband DGS Based Microstrip Patch Antenna for Open Satellite Communication”, IEEE International Conference on Advances in Engineering & Technology Research (ICAETR - 2014).

32.	**Authors:** **Narayana Swamy Ramaiah, M.Sai Chaitanya** **Paper Title:** **Design and Implementation of Automatic Theft Control Using Smart Security System**	

Abstract: The contemporary available technology for Automobile Access Control, safety features and Communication has its inalienable restrictions due to various factors & keeping pace with the necessities of the market, an attempt has been made to enhance its performance in the areas of safety, timely user communication & feedback regarding change in location, unauthorized access & the like. Safety features include detection against Alcohol consumption, unauthorized access, internal wiring tampering, position change followed by communication to the user by an application and further engine disable feature to avoid any further misadventure.

Keywords: Sensors, Security System, Biometric

171-174

References:
1. E. M. Tamil, D. B. Saleh, and M. Y. I. Idris, in Proc. 5th Student Conference on Research and Development (SCORED), Permala Bangi, Malaysia,2007, pp. 398-402
2. I. Lita, I. B. Cioc and D. A. Visan, in Proc. Int. Spring Seminar on Electronics Technology, 2006, pp. 115- 119.
3. T. K. Kishore, T. S. Vardhan, and N. L. Narayana,Int. Journal of Computer Science and Network Security, vol. 10, no. 2 pp. 286-291, 2010.
4. McCaghy C. H., Giordana P. C., Henson T. K Vol. 15, No.3, November, 1977.
5. Y.C. Wu, Y.Q. Xia, P. Xie, X.W. Ji, Inf. Eng. Computer Sci., vol. 1, pp. 1-4, 2009

33.	**Authors:** **Swapna Tangelapalli, P.Pardha Saradhi** **Paper Title:** **Simulation of Fractional frequency reuse Algorithms in LTE Networks**	

Abstract: LTE (Long Term Evolution)also popular as 4G LTE is the latest mobile technology which uses VOIP technology for communication. There are various limiting factors of wireless cellular technology such as delay, throughput, latency etc, but the most effecting limiting factor is Inter cell Interference (ICI). It can be reduced by using different methods of Frequency reuse techniques. Ns3 supports almost all the popular technologies including LTE, WLAN and Ethernet. LTE module is available to simulate 4G environment by applying different frequency reuse algorithm modules, different handover techniques and much more. In this paper, the different frequency reuse algorithms are presented theoretically for designing 4G LTE topology are discussed and simulated using. The simulation results indicates that the soft frequency reuse algorithm achieves highest system performance in comparison of Soft FFR and Distributed

Keywords: 4G, ns3, LTE EPC, HFR, SFR, SFFR, Dynamic FFR

175-179

References:
1. Ns3, N.S. https://www.nsnam.org.
2. Tangelapalli Swapna, Dr.P.Pardha saradhi, “Survey with Analytical results on ultra dense 5G”,Internatitonal journal of pure and Applied Mathematics, Volume 117,Issue 18,special Issue,2017,pages1-6.
3. Tangelapalli Swapna, Dr.P.Pardha saradhi, “An overview on Millimeter wave technology for future wireless Communications” ,International Journal of Research in Signal Processing, computing and communication system Design,Volume3, Issue 2,2017,ISSN:2395-3187
4. Swapna Tangelapalli1 , Dr.P.Pardha Saradhi2 , , Overview of Interference Management in Ultra Dense Networks for future wireless, IJETAE,Volume 8, Issue 4,April 2018.
5. R. Y. Chang, Z. Tao, J. Zhang, and C.-C. Kuo, "A graph approach to dynamic fractional frequency reuse (FFR) in multi-cell OFDMA networks," in Communications, 2009. ICC'09. IEEE International Conference on, 2009, pp. 1-6.
6. Kwon, Y., et al., Power Control for Soft Fractional Frequency Reuse in OFDMA System, in Computational Science and Its Applications – ICCSA 2010, D. Taniar, et al., Editors. 2010, Springer Berlin Heidelberg. p. 63-71.
7. Soft Frequency Reuse Scheme for UTRAN LTE, C. 3rd Generation Partnership Project, France, 3GPP Project Document R1-050507, Editor
8. Piotr Gawłowicz, Nicola Baldo, Marco Miozzo."An extension of the ns-3 LTE module to simulate fractional frequency reuse algorithms", Proceedings of the 2015 Workshop on ns-3 - WNS3 '15, 2015
9. D. Bilios, C. Bouras, V. Kokkinos, A. Papazois, and G. Tseliou, "A performance study of Fractional Frequency Reuse in OFDMA networks," in WMNC, 2012, pp. 38-43.
10. Arash Maskooki, Gabriele Sabatino, Nathalie Mitton. "Analysis and performance evaluation of the next generation wireless networks", Elsevier BV, 2015

34.	**Authors:** **R.K.Krishna, B.Seetha Ramanjaneyulu**	

	Paper Title:	**Gorilla Optimization Based Clustering and Fittest Node Routing Technique for Improving the Lifetime of Wireless Sensor Network**	
	Abstract: In this paper Clustering is implemented using the Gorilla Optimization Technique, a technique inspired by the social behavior of the Gorillas. As is known Gorillas are generally found in groups of 5 to 12 with silverback gorilla being the dominant and leader. The adolescent males generally split from parent group to form their own clusters. This behavior is used for formation of Clusters. The nodes with highest energy are chosen as Cluster heads and nodes with third highest energies breakaway to form their own Clusters attracting all unattached nodes. The process continues till all nodes join the cluster. Routing is implemented using the fittest node technique. Communication between two nodes takes place through the cluster heads of the source and destination clusters and a relay node in between. For selecting the relay nodes maximum residual energy and minimum distance between node and destination is considered. **Keywords:** Gorilla Optimization Technique, Silverback Gorilla, Adolescent males, Cluster heads. **References:** 1. Xinyu Wang, Tsan Ming Choi, Haikuo Liu, and Xiaohang Yue "Novel Ant Colony Optimization Methods for Simplifying Solution Construction in Vehicle Routing Problems" IEEE Transactions on Intelligent Transportation Systems,Vol.17, No.11, November 2016 pp3132 -3141. 2. Yuan, Zhou, Ning Wang, and Wei Xiang"Clustering Hierarchy Protocol in Wireless Sensor Networks Using an Improved PSO Algorithm" Volume 5, 2017, IEEE ACESS. 3. Huadong Wang, Ying Chen, Shi Dong"Research on efficient-efficient routing protocol for WSNs based on improved artificial bee colony algorithm" IET Wireless Sensors Systems, 2017, Vol. 7 Issue. 1, pp. 15-20. 4. J. A. Martins, A. Mazayev, N. Correia, G. Schütz, and A. Barradas "GACN: Self-Clustering Genetic Algorithm for Constrained Networks 'IEEE Communications Letters, Vol. 21, NO.3, March 2017, pp.628-631. 5. Hanning Chen, Lianbo Ma, Maowei He, Xingwei Wang,Xiaodan Liang, Liling Sun, and Min Huang, Xingwei Wang "Artificial Bee Colony Optimizer Based on Bee Life-Cycle for Stationary and Dynamic Optimization" IEEE Transactions on Systems,Man,and Cybernetics systems ,2016,pp1-19. 6. N. A. Al-Aboody and H. S. Al-Raweshidy "Grey Wolf Optimization Based Energy Efficient Routing Protocol for Heterogeneous Wireless Sensor Networks" 2016 4th International Symposium on Computational and Business Intelligencepp.101-107. 7. Nafaa Jabeur "A Firefly-Inspired Micro and Macro Clustering Approach for Wireless Sensor Networks" The 7th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN 2016) pp. 132-139. 8. Reza Azizi, Hasan Sedghi, Hamid Shoja, Alirezaepas-Moghaddam"A Novel Energy Aware Node Clustering Algorithm for Wireless Sensor Network using a modified Artificial Swarm Fish swarm Algorithm" International Journal of Computer Networks & Communications (IJCNC) Vol.7, No.3, May 2015, pp103-115. 9. Cherifa Boucetta, Hanen Idoudi, Leila Azouz Saidane " Hierarchical Cuckoo Search-based Routing in wireless Sensor Networks" 2016 IEEE Symposium on Computers and Communication (ISCC) pp.1-5. 10. Sandra Sendra, Lorena Parra, Jaime Lloret and Shafiullah Khan " Systems and Algorithms for Wireless Sensor Networks Based on Animal and Natural Behavior" Hindawi Publishing Corporation International Journal of Distributed Sensor Networks Volume 2015 pp.1-19.	**180-185**
35.	**Authors:**	**P. Aruna Kumari, I. Santi Prabha**	
	Paper Title:	**Network Selection in Heterogeneous Wireless Environment using Computationally Reduced Fuzzy Rule Base System**	
	Abstract: The number of mobile subscribers has been increasing at a faster pace every year. This has imparted the need on the part of network operators to provide continuous and seamless mobility with the aim "Anywhere, Anytime" services to the users. Designing a proper handoff mechanism and its implementation is the important factor to provide ubiquitous data services. A new network selection algorithm in case of heterogeneous network environment for taking handoff decision has been proposed and implemented using Fuzzy Logic. The limitation of using Fuzzy Logic for increased network metrics consideration has also overcome by using Dominant Rule Determination. Fuzzy Rule Base system with reduced complexity is developed and evaluated. The network with highest handoff score value obtained from the fuzzy system output is chosen for executing better Quality of Service (QoS) handoff. **Keywords:** heterogeneous; handoff decision; Fuzzy Logic; Fuzzy Rule Base; handoff score; QOS. **References:** 1. Goyal, Pramod, D. K. Lobiyal, and C. P. Katti. "Vertical handoff in heterogeneous wireless networks: a tutorial." In Computing, Communication and Automation (ICCCA), 2017 International Conference on, pp. 551-566. IEEE, 2017. 2. Shen, Yulong, Ning Xi, Qingqi Pei, and Jianfeng Ma. "The QoS-Ensured Vertical Handoff Decision in Heterogeneous Wireless Networks." Journal of Information Science and Engineering 30, no. 3 (2014): 875-893. 3. Mahardhika, Gita, Mahamod Ismail, and Rosdiadee Nordin. "Vertical Handover Decision Algorithm Using Multicriteria Metrics in Heterogeneous Wireless Network." Journal of Computer Networks and Communications 2015 (2015). 4. Kassar, Meriem, Brigitte Kervella, and Guy Pujolle. "An overview of vertical handover decision strategies in heterogeneous wireless networks." Computer Communications 31, no. 10 (2008): 2607-2620. 5. KantubuktaVasu, SumitMaheshwari, SudiptaMahapatra and Cheruvu Siva Kumar "QoS-aware fuzzy rule-based vertical handoff decision algorithm incorporating a new evaluation model for wireless heterogeneous Networks",EURASIP Journal on Wireless Communications and networking 2012. 6. Sadiq, Ali Safa, and Kamalrulnizam Abu Bakar. "A fuzzy logic approach for reducing handover latency in wireless networks." Network Protocols and Algorithms 2, no. 4 (2011): 61-87. 7. M. M. Alkhawlani, K. A. Alsalem, and A. A. Hussein, "Multi-criteria vertical handover by TOPSIS and fuzzy logic," in Proceedings of the International Conference on Communications and Information Technology (ICCIT '11), pp. 96–102, 2011 8. Yaochu Jin, Member, IEEE, "Fuzzy Modeling of High-Dimensional Systems:Complexity Reduction and Interpretability Improvement"IEEE TRANSACTIONS ON FUZZY SYSTEMS, VOL. 8, NO. 2, APRIL 2000. 9. Rajiv Chechi, Dr.RajeshKhannaI "QoS Support in Wi-Fi, WiMAX& UMTS Technologies" IJECT Vol. 2, Issue 3, Sept. 2011. 10. 3rd Generation Partnership Project (3GPP)," http://www.3gpp.org/. 8. 11. 3rd Generation Partnership Project 2 (3GPP2)," http://www.3gpp2.org/	**186-191**
36.	**Authors:**	**J. Kirubakaran, G.K.D. Prasanna Venkatesan, Kamalraj Subramaniam**	
	Paper Title:	**Analysis of MC-CDMA Technique Using MLSE in Different Fading Channels in Wireless Communication**	
	Abstract: The cross-layer system is analyzed and improve the particular channels with most extreme algorithm Maximum Likelihood Sequence Estimation (MLSE) is analyzed to improve the Bit Error Rate of the proposed system. We landing the time for another edge, to the approximated to decreasing the spreading factors as a down to the earth	**192-195**

case. We reproduce the chart to enhance the perfect outside circle SNR target does not enhance the quantity of ways is enhance to uniformly appropriated landing time of the new circle. In addition, a BER improve the total throughput of reachable to get total in the multipath approach.

Index Terms: Cross layer, frequency selective fading, MLSE, RAKE receiver, Bit error rate.

References:

1. Shojaeifard, A & Zarringhalam, F 2011, 'Joint physical layer and data link layer optimization of CDMA-based networks', IEEE transaction on wireless Communication, vol.10, no.10,pp. 3278-3287.
2. Shikhbahaei, M 2007, 'Joint optimization of transmission rate & outerloop SNR target adaptation over fading channels', IEEE transaction communication, vol.10, pp. 398-403.
3. Yang, L & Hanzo, M 2004, 'Adaptive rate DSCDMA systems using variable spreading factors', IEEE transaction technology, vol. 53, pp. 72-81.
4. Buzzi, S & Massaro, V 2009, 'Energy efficient resource allocation in multipath CDMA channels with band-limited waveforms', IEEE transaction Signal Processing, vol. 57, no. 4, pp. 1494-1510.
5. Fei, Y & Krishnamurthy, V 2006, 'Cross layer optimal connection admission control for variable bit rate multimedia traffic in packet wireless CDMA networks', IEEE transaction Signal Processing, vol. 54, no. 2, pp. 542–555.
6. Zarringhalam, F & Seyfe, B 2009, 'Jointly optimized rate and outer loop power control with sing leaned multiuser detection', IEEE transaction in wireless communication, Vol.8,pp.189-195.
7. Kirubakaran, J & Parasannavenkatesan, GKD 2014, 'Parallel AES Encryption Engines many core Processor Arrays', International Journal of research in engineering and advanced technology, vol.2, no. 3,pp.101-108.
8. Kirubakaran J & Prasannavenkatesan GKD 2014, 'A Novel Approach to PAPR reduction with Reduced Complexity Based On OICF Algorithm', International Journal of Advanced Technology in engineering & Science, vol.2, no.6, pp.9-18.
9. Kirubakaran J & Prasannavenkatesan GKD 2014, 'An Efficient Location Based Anonymous Routing Protocol For ADHOC Networks', International journal of research in engineering and Advanced technology, vol.2, no.2, pp. 806-812.
10. Kirubakaran J & Prasannavenkatesan GKD 2015, 'Performance Analysis of MIMO systems using CDMA for 4G wireless communication', has been published for the International Journal of Applied Engineering Research, vol.10, no.41, pp. 30377-30382.

37.

Authors: **M.Monika, V.Poonkulali, R.Thandaiah Prabu, V.Yokesh**

Paper Title: **Design of Microstrip Combline Bandpass Filter on Different Substrates**

Abstract: In this contribution, microstrip combline filter with 5th order for the C band frequency is designed. Combline filter is derived from parallel coupled filter by placing a capacitor in the resonator at one terminal and ground at the opposite terminal. The filter is designed for FR4, RT/Duroid 6010 and Roger RO3010 substrates having different dielectric constants using an ADS2009. The characteristics like insertion loss and return loss has been discussed. From the simulation results, high dielectric constant substrate provides better return loss and smaller insertion loss for the selected material.

Keywords: Microstrip, bandpass filter, Combline, dielectric constant, insertion loss, return loss, substrate.

References:

1. http://defenseelectronicsmag.com/sitefiles/defenseelectronics mag .com/files/archive/rfdesign.com/mag/combline.pdf
2. Ibrahim Azad, Md.Amran Hossen Bhuiyan, S.M.Yahea Mahub, "Design and performance analysis of 2.45 GHz microwave bandpass filter with reduced harmonics," International Journal of Engineering Research and Development, vol.5, issue 11, Feb 2013, pp 57-67.
3. Aparna Thube, Manisha Chattopadhyay, "RF filter design using insertion loss method and genetic optimization algorithm," International Journal of Engineering Research and Applications, vol. 3, issue 4, Jul-Aug 2013, pp 207-211.
4. Jia-sheng Hong and M. J. Lancaster, "Microstrip filters for RF/Microwave Applications," John Wiley & sons, 2001.
5. Ralph Levy, Richard V. Snyder and George Matthaei, "Design of microwave filters," IEEE Transactions on Microwave theory and Techniques, vol. 50, no. 3, 2002.
6. Xu-Guang Wang, Young-Ho Cho, Sang-Won Yun., "A tunable combline bandpass filter loaded with series resonator," IEEE Transactions on Microwave Theory and Techniques, vol. 60, no. 6, June 2012.
7. David M Pozar, "Microwave and RF design of wireless systems," John Wiley & sons, 2001.
8. Matthaei, George. L., "Combline bandpass filters of narrow or moderate bandwidth," The Microwave Journal, 1963.
9. Annapurna Das and Sisir K Das, "Microwave Engineering," Tata McGraw Hill Education Private Limited, second edition,2009.

196-199

38.

Authors: **K. Lokesh Krishna, A. Krishna Mohan, Yahya Mohammed Ali Al-Naamani**

Paper Title: **A Double Tail Dynamic Latched Comparator for Pipelined ADC**

Abstract: Data converter circuits are very essential circuit blocks in the implementation of low power and moderate speed electronic systems. In recent years, with more and more portable electronic systems being designed, developed and available in the market, it becomes essential to include more features in these systems. One of the main blocks in these systems is analog to digital converter, which uses a comparator inside it. With the purpose of improving the functionality of ADC circuit, a complete design and simulation. The comparators use regenerative feedback to convert the output to a full scale digital signal. The main parameters considered are power dissipation, gain, propagation delay, offset voltage and slew rate. The simulation is carried out in CMOS 90nm technology using spectre of cadence EDA tool. The simulation results permit the analog circuit designer to completely explore the tradeoffs such as operating speed and power consumption for flash ADC architecture. The power dissipation of the designed comparator circuit is 136µW, when operated at supply voltage of 1.2V and delay is simulated to be 526ps. The simulated results show that it can be used for a pipelined ADC architecture.

Keywords: CMOS; low offset; low power; mixed signal circuit and slew rate.

References:

1. Guoquan Sun, Yin Zhang, Lenian He and Xiaolei Zhu,"A threshold control technique for CMOS comparator design," Proceedings of the IEEE International Conference on Electron Devices and Solid-State Circuits-IEEE, Chengdu, 2014, pp. (1-2).
2. T. Sundstrom and A. Alvandpour, "A Kick-Back Reduced Comparator for a (4-6) bit 3GS/s Flash ADC in a 90nm CMOS Process," Proceedings of the 14th International Conference on Mixed Design of Integrated Circuits and Systems, Ciechocinek, 2007, pp. (195-198).
3. Krishna, K.L., Ramashri, T.: VLSI design of 12-bit ADC with 1GSPS in 180nm CMOS integrating with SAR and Two-Step Flash ADC. Journal of Theoretical and Applied Information Technology, Vol.68, No.1, pp. (27-35) October 2014.
4. E. Shirai, "CMOS Multistage Preamplifier Design for High-Speed and High-Resolution Comparators," IEEE Transactions on Circuits and Syst-

200-203

II: Express Briefs, Vol. 54, No. 2, pp.(166-170), Feb. 2007.
5. L. Kouhalvandi, S. Aygun, G. G. Ozdemir and E. O. Guneş, "10-bit High-speed CMOS comparator with offset cancellation technique," Proceedings of 5th IEEE Workshop on Advances in Information, Electronic and Electrical Engineering (AIEEE), Riga, 2017, pp. (1-4).
6. R. Jacob Baker.: CMOS Circuit Design, Layout and Simulation, 3rd Edition, IEEE press, A John Wiley & Sons, USA (2010).
7. K.Lokesh Krishna, and T.Ramashri, "Design and VLSI Implementation of Low Power Filter Bank ADC Architecture for I-UWB Receiver using 130nm CMOS Technology," in Intern. Journal of Applied Engineering Research, Vol. 9, No.21 (2014) pp. (11487-11505).
8. Phillip E.Allen and Douglas R. Holberg, 2009, "CMOS Analog Circuit Design", Second edition, Oxford University Press.
9. Tony Chan Carusone, David A. Johns and Kenneth W.Martin "Analog Integrated Circuit Design", John Wiley & Sons, Inc. Second Edition, NJ (2012).

39.

Authors: **Sunakar Prusty, S.L.Sri Harsha, P. Himabindu**

Paper Title: **Automatic Mobile Platform Assistance for Elderly and Physically Challenged Persons**

Abstract: With the construction of stairs and installment of escalators in the railway stations transportation of human being and materials from one platform to other has become easy, but elderly people and physically challenged people are facing a lot of problems while availing the facility in most of the times due to their inner fear and weakness. Hence a simple transporting medium can solve both the problems. This paper presents the development of a programmed mobile platform that helps the elderly and physically challenged people to move easily from one railway platform to another. The arrival and departure of the train in both the directions is detected by ultrasonic sound sensors and indicated by LEDs. This also gives prior intimation to the railway authorities if there are any chances of train collisions. The geared stepper motor is used to assist the movement of the mobile platform accordingly, using the Rack and pinion mechanism.

Keywords: Arduino, Ultrasonic sensors, Stepper motor, Rack and Pinion mechanism.

References:

1. G. Prabhavathi, B. Sanjana, and S. P. Dhivya. "Railway track pedestrian crossing between platforms." IOSR Journal of Electronics and Communication Engineering (IOSRJECE) e-ISSN: 2278-2834.
2. Banuchandar J., et al. "Automated Unmanned Railway LevelCrossing System." International Journal of Modern Engineering Research (IJMER) Volume 2 (2012): 458-463.
3. Kanchan, Manu, and Ankur Bansal. Conceptual design to transfer handicapped or old people from one platform to another. Diss. 2007.
4. David, and Rituraj Rituraj. "Design of Automated Unmanned Railway Level Crossing System Using Wheel Detector (Sensor) Technology."
5. Silla, Anne, and Juha Luoma. "Effect of three countermeasures against the illegal crossing of railway tracks." Accident Analysis & Prevention 43.3 (2011): 1089-1094.
6. Delmonte, Emma, and Simon Tong. "Improving safety and accessibility at level crossings for disabled pedestrians." (2011).
7. Branch, Rail Accident Investigation. "Rail Accident Report: Investigation into Station Pedestrian Crossings: With Reference to the Fatal Accident at Elsenhman Station on 3 December 2005." (2006).
8. www.arduino.cc
9. http://www.zen toolworks.com/CNC manual

204-207

40.

Authors: **Venkateswara Rao. V., Varma. P. L. N, Reddy Babu. D**

Paper Title: **Average eccentricity of graphs w.r.t. D-distance**

Abstract: The average distance is one of the important index which can be used in many applications, in particular, for finding out the network signals, minimum distance etc. Similarly, the average eccentricity of a graph is applicable in the network signals. In this article, we study the average eccentricity of graph using D-distance, which we call average D-eccentricity and derive some of its properties. Also we obtain the bounds for the average D-eccentricity of a graph.

Keywords: D-distance, D-eccentricity, average D-eccentricity

References:

1. Ghorbanifar M, Connective eccentric index of fullerenes, Journal of Mathematical Nano Science, (2011) 43–50.
2. Gupta. S, Singh. M and Madan. A.K, Connective eccentricity index: A novel topological descriptor for predicting biological activity, Journal of Molecular Graphics and Modeling, 18 (2000) 18–25.
3. Harary. F, Graph Theory, Addison Wesley, 1969.
4. M.A.Rajan, M.Girish et. .el. A Study Of Connectivity Index of Graph Relevant to Adhoc Networks, IJCSNS VOL.7 No.11, November, 198-204, 2007.
5. M.A.Rajan, M.Girish Chandra, "A Study of Graph Theory Concepts Relevant to MANETS", Technical Report, TCSL, 2006.
6. Reddy Babu, D., Varma, P.L.N., distance in graphs, Gold. Res. Thoughts, 2 (2013) 53-58.
7. Reddy Babu, D., Varma, P.L.N., Average D-distance between vertices of a graph, Italian Journal of Pure and Applied Mathematics, vol. 33(2014) 293-298.

208-210

41.

Authors: **Satish Kanapala, Shaik Jakeer Hussain**

Paper Title: **BER Analysis of Filter Bank Multicarrier for 5G Wireless Communications**

Abstract: Women In recent years, the world is looking for higher data rate along with the support of machine to machine communication, internet of things(IoT) in the 5G mobile communications, the limitations of conventional orthogonal frequency division multiplexing(OFDM) have less spectral characteristic due to the out of band emission and high peak to average power ratio(PAPR). Future generation wireless communications needs the better spectral properties and high spectral efficiency. Offset quadrature amplitude modulation based filter bank multicarrier is one of the waveform candidature to meet the requirements of future wireless configuration. In this paper, we proposed OQAM based FBMC with reduced bit error rate characteristics as close as to theoretical results with moderate complexity. It is simulated with Matlab Software, and the simulation results shows the better BER with respect to SNR as compared with the traditional methods.

Keywords: OFDM, FBMC, Cyclic Prefix, QAM, OQAM, BER.

211-214

References:

1. Cisco, “Visual Networking Index,” White paper, Feb. 2015 [Online]. Available: www.Cisco.com.
2. T. S. Rappaport, W. Roh, and K. Cheun, “Wireless engineers long considered high frequencies worthless for cellular systems. They couldn’t be more wrong,” IEEE Spectr., vol. 51, no. 9, pp. 34–58, Sep. 2014.
3. Agiwal, Mamta, Abhishek Roy, and Navrati Saxena. "Next generation 5G wireless networks: A comprehensive survey." IEEE Communications Surveys & Tutorials 18, no. 3 (2016): 1617-1655.
4. Shafi, Mansoor, Andreas F. Molisch, Peter J. Smith, Thomas Haustein, Peiying Zhu, P. D. Silva, Fredrik Tufvesson, Anass Benjebbour, and Gerhard Wunder. "5G: A tutorial overview of standards, trials, challenges, deployment, and practice." IEEE Journal on Selected Areas in Communications 35, no. 6 (2017): 1201-1221.
5. Zhang, Lei, Pei Xiao, Adnan Zafar, Atta ul Quddus, and Rahim Tafazolli. "FBMC system: An insight into doubly dispersive channel impact." IEEE Transactions on Vehicular Technology 66, no. 5 (2017): 3942-3956.
6. Bellanger, Maurice, D. Le Ruyet, D. Roviras, M. Terré, J. Nossek, L. Baltar, Q. Bai, D. Waldhauser, M. Renfors, and T. Ihalainen. "FBMC physical layer: a primer." PHYDYAS, January 25, no. 4 (2010): 7-10.
7. Zhang, Jian, Minjian Zhao, Jie Zhong, Pei Xiao, and Tianhang Yu. "Optimised index modulation for filter bank multicarrier system." IET Communications 11, no. 4 (2017): 459-467.
8. Zhang, Lei, Ayesha Ijaz, Pei Xiao, Mehdi M. Molu, and Rahim Tafazolli. "Filtered OFDM systems, algorithms, and performance analysis for 5G and beyond." IEEE Transactions on Communications 66, no. 3 (2018): 1205-1218.
9. Kaur, Satwinder, Lavish Kansal, Gurjot Singh Gaba, and Nuru Safarov. "Survey of Filter Bank Multicarrier (FBMC) as an efficient waveform for 5G." International Journal of Pure and Applied Mathematics, Volume 118, No. 7(2018): 45-49.
10. Shaheen, Imad A., Abdelhalim Zekry, Fatma Newagy, and Reem Ibrahim. "Performance evaluation of PAPR reduction in FBMC system using nonlinear companding transform." ICT Express (2018).
11. Patil, Swapnil, and Shruti Patil2and Dr Uttam Kolekar. "Implementation Of 5G using OFDM and FBMC (Filter Bank Multicarrier)/OQAM (Offset Quadrature Amplitude Modulation)." International Journal of Innovative Science, Engineering & Technology, Vol. 5 Issue 1, January 2018: 11-15.
12. Bouhadda, Hanen, Hmaied Shaiek, Yahia Medjahdi, Daniel Roviras, Rafik Zayani, and Ridha Bouallegue. "Sensitivity analysis of FBMC signals to non linear phase distortion." In Communications Workshops (ICC), 2014 IEEE International Conference on, pp. 73-78. IEEE, 2014.
13. Zakaria, R., and D. Le-Ruyet. "SER analysis by Gaussian interference approximation for filter bank based multicarrier system in the presence of phase error." In IEEE International Conference on Communications (ICC). 2015.
14. Bouhadda, Hanen, Hmaied Shaiek, Daniel Roviras, Rafik Zayani, Yahia Medjahdi, and Ridha Bouallegue. "Theoretical analysis of BER performance of nonlinearly amplified FBMC/OQAM and OFDM signals." EURASIP Journal on Advances in Signal Processing 2014, no. 1 (2014): 60.
15. Bedoui, Abla, and Mohamed Et-tolba. "A comparative analysis of filter bank multicarrier (FBMC) as 5G multiplexing technique." In Wireless Networks and Mobile Communications (WINCOM), 2017 International Conference on, pp. 1-7. IEEE, 2017.
16. (2008) Phydyas project fp7.[Online].Available:http//www.ict-phydyas.org/
17. Bellanger, “Digital signal processing-Theory and Practice." ser.Four volumes. Wiley,1999, Chichester,NY,USA.
18. Baltar, Leonardo G., and Josef A. Nossek. "Multicarrier systems: a comparison between filter bank based and cyclic prefix based OFDM." In OFDM 2012, 17th International OFDM Workshop 2012 (InOWo'12); Proceedings of, pp. 1-5. VDE, 2012.
19. Nissel, Ronald, and Markus Rupp. "OFDM and FBMC-OQAM in doubly-selective channels: Calculating the bit error probability." IEEE Communications Letters 21, no. 6 (2017): 1297-1300.

42.

Authors: **Ramesh. Avula, M.Rangarao, Y.Kumari**

Paper Title: **Fractal Ultra Wide Band Antenna for 5G Applications**

Abstract: a reduced fractal UWB Microstrip antenna is displayed in this paper for future versatile advancements. It is used for wide band applications like WIMAX, WILAN. The proposed prototype is extremely reduced in size having the dimensions 18×25 mm and is enhanced to be worked in the band from 20 to 50GHz with a partial transmission capacity of over 89%. Rogers RO 4232 material of 1.5209mm height with a ε_r= 3.2 and impedance matching of 0.0018 is utilized as a substrate for the proposed prototype. The realized gain of 6.6dB at 38GHz is proficient and normal gain of 5.4dB is kept up all through the impedance transfer speed of the proposed antenna prototype. Different outcome bends as return losses, gain and the radiation pattern of the proposed prototype have been dissected in the paper.

Keywords: Fractal , 5G, Ultra Wide band (UWB), microstrip.

References:

1. Monopole Antenna Radiation Pattern Control via 3-D-Printed Dielectrics IEEE Transactions on Antennas and Propagation Published: 2017
2. Study of an Electrochemically-Deposited 3-D Random Fractal Tree-Monopole Antenna IEEE Transactions on Antennas and Propagation Published: 2007
3. Study of an Electrochemically-Deposited 3-D Random Fractal Tree-Monopole Antenna IEEE Transactions on Antennas and Propagation Published: 2007
4. Modification and control of currents on monopole antennas using magnetic bead loading IEEE Antennas and Wireless Propagation Letters Published: 2003
5. On the behavior of the Sierpinski multiband fractal antenna IEEE Transactions on Antennas and Propagation Published: 1998
6. Generalized Sierpinski fractal multiband antenna IEEE Transactions on Antennas and Propagation Published: 2001
7. A Novel Modified Star-Triangular Fractal (MSTF) Monopole Antenna for Super-Wideband Applications IEEE Antennas and Wireless Propagation Letters Published: 2013
8. A monopole antenna loaded with a modified folded dipole IEEE Transactions on Antennas and Propagation Published: 1993
9. Monopole Antenna With Quasi-Fractal Slotted Ground Plane for Dual-Band Applications IEEE Antennas and Wireless Propagation Letters Published: 2010
10. Hybrid Fractal Shape Planar Monopole Antenna Covering Multiband Wireless Communications With MIMO Implementation for Handheld Mobile Devices IEEE Transactions on Antennas and Propagation Published: 2014
11. Design of a Stub-Loaded Ring-Resonator Slot for Antenna Applications IEEE Transactions on Antennas and Propagation Published: 2015
12. Compact Printed UWB Diversity Slot Antenna With 5.5-GHz Band-Notched Characteristics IEEE Antennas and Wireless Propagation Letters Published: 2014
13. Ultrawideband Dielectric Resonator Antenna With WLAN Band Rejection at 5.8 GHz IEEE Antennas and Wireless Propagation Letters Published: 2013
14. Compact ultra-wideband antenna with dual bandstop characteristic Electronics Letters Published: 2008
15. Planar miniature tapered-slot-fed annular slot antennas for ultrawide-band radios IEEE Transactions on Antennas and Propagation Published: 2005
16. Compact Band-Rejected Ultrawideband Slot Antennas Inserting With$\lambda/2$and$\lambda/4$Resonators IEEE Transactions on Antennas and Propagation Published: 2011
17. An ultrawideband coplanar waveguide-fed tapered ring slot antenna IEEE Transactions on Antennas and Propagation Published: 2006
18. Compact frequency notched ultra-wideband fractal printed slot antenna IEEE Microwave and Wireless Components Letters Published: 2006
19. UWB Printed Slot Antenna With Bluetooth and Dual Notch Bands IEEE Antennas and Wireless Propagation Letters Published: 2011

43.	**Authors:**	**J. Veeranjaneyulu, Varma, P. L. N.**	
	Paper Title:	**Circular D-Distance and Path Graphs**	
	Abstract: In the present study we deal with the concept of circular D-distance which is the sum of D-distance and detour D-distance. We study some properties. We also obtain some results on circular D-distance, circular D-radius, circular D-self-centered graphs etc. In the areas of network theory, communications, data mining etc finding the shortest path plays an important role. Sometimes, depending on application we may have to find the longest path or both. **Keywords:** D-distance, detour D-distance, circular D-distance, circular D-radius, circular D-diameter. **References:** 1. Buckley, F., Harary, F., Distance in graphs, Addison-Wesley, Longman, 1990. 2. Chartrand, G., Escuadro, H., Zhang, P., Detour distance in graphs, J. Combin. Comput 53 (2005), 75-94. 3. Chartrand, G., Zhang, P., Distance in graphs-taking the long view, AKCE J. Graphs Combin., 1 (2004), 1-13. 4. Chartrand, G and P. Zang, Introduction to Graph Theory, Tata McGraw-Hill, (2006). 5. Reddy Babu, D., Varma, P.L.N., distance in graphs, Gold. Res. Thoughts, 2 (2013) 53-58. 6. Venkateswara Rao V., Varma P. L. N., Detour Distance in Graphs w.r.t. D-distance, Ponte International Journal of Sciences and Research. Res.73 (7) (2017) 19-28. 7. Veeranjaneyulu J, P.L.N. Varma, Circular D-distance in graphs, Preprint, 2018.		**219-223**
44.	**Authors:**	**Pitchaiah Telagathoti, Ravi Sekhar Yarrabothu**	
	Paper Title:	**Performance of OQAM based GFDM under Real-time Fading Conditions**	
	Abstract: Women The Fifth generation cellular systems demand ultra high data speeds, ultra low power usage and lower latency. To meet these stringent requirements, Generalized Frequency Division multiplexing (GFDM) is one such waveform that is considered by researchers. At present, the 4G systems with Orthogonal Frequency division Multiplexing (OFDM) waveform have the drawbacks such as Inter Carrier Interference (ICI) and Inter Symbol Interference (ISI). To overcome the ICI/ISI and improve the spectrum efficiency, a non-orthogonal scheme of GFDM is introduced. In this paper, the performance of the Offset Quadrature Amplitude Modulation (OQAM) based GFDM, the analysis of the performance in terms of errors when passed through numerous fading channel condition for the Rayleigh channel model are discussed. The error performance is evaluated for EPA, EVA, ETU fading profiles as defined according to the 3GPP. Simulation results show that OQAM-GFDM error performance is superior to OFDM under various fading conditions and this could be more suitable wave form for 5G communications. **Keywords:** Cyclic Prefix; GFDM; ISI; ICI; OFDM; Orthogonality; Rayleigh fading model. **References:** 1. N. Michailow, M. Matthe, I. Gaspar, A. Caldevilla, L. Mendes, A. Festag, and G. Fettweis, "Generalized Frequency Division Multiplexing for 5th generation cellular networks," Communications, IEEE Transactions on, vol. 62, no. 9, pp. 3045–3061, Sept 2014. 2. G. Fettweis and S. Alamouti, "5G: Personal mobile Internet beyond what cellular did to telephony," IEEE Commun. Mag., vol. 52, no. 2, pp. 140–145, Feb. 2014. 3. G. Wunder et al., "5GNOW: Non-orthogonal, asynchronous waveforms for future mobile applications," IEEE Commun. Mag., vol. 52, no. 2, pp. 97–105, Feb. 2014. 4. J. G. Andrews, S. Buzzi, W. Choi, S. V. Hanly, A. Lozano, A. C. Soong,and J. C. Zhang, "What will 5g be?" Selected Areas in Communications, IEEE Journal on, vol. 32, no. 6, pp. 1065–1082, 2014. 5. M. Nekovee, "Quantifying performance requirements of vehicle-to vehicle communication protocols for rear-end collision avoidance," in Proc. IEEE 69th Veh. Technol. Conf., Barcelona, Spain, Apr. 2009, vol. 1, pp. 1–5. 6. Sklar, Digital Communications: Fundamentals and Applications, 2nd ed. New York, NY, USA: Prentice-Hall, 2001. 7. N. Michailow, S. Krone, M. Lentmaier, and G. Fettweis, "Bit error rate performance of Generalized Frequency Division Multiplexing," in Vehicular Technology Conference (VTC Fall), 2012 IEEE, Sept 2012, pp. 1–5. 8. P. Siohan, C. Siclet, and N. Lacaille, "Analysis and design of ofdm/oqam systems based on filterbank theory," Signal Processing, IEEE Transactionson, vol. 50, no. 5, pp. 1170–1183, 2002. 9. G. Fettweis, M. Krondorf, S. Bittner, "GFDM – Generalized Frequency Division Multiplexing", Proceedings of the 69th IEEE Vehicular Technology Conference, Barcelona, Spain, 26-29 April 2009, pp. 1-4. 10. B.LeFloch, M.Alard, and C.Berrou, "Coded orthogonal frequency division multiplex,"proc.of IEEE,vol.83,PP.982-996,June 1995. 11. Shravan Kumar Bandari, V.V Mani and A.Drosopoulos, "OQAM Implementaion of GFDM," in 2016 23rd International Conference on Telecommunications (ICT) 12. Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (3GPP TS 36.104 version 11.2.0 Release 11) (www.3GPP.org) 13. Clerckx B, Lozano A, Sesia S, van Rensburg C and Papadis B. 3GPP LTE and LTE Advanced. EURASIP J. Wireless Commun. Netw. Sep 2009;1: 472-124. 14. Maddah-Ali M, Motahari A, Khandari A. Communication over MIMO X channels: Interderence alighnment, decomposition, Performance analysis. IEEE Trans. Inf. Theory;Aug 2008;54:3457-3470. 15. Rappaport T.S. et al. Millimeter wave mobile communications for 5G cellular: It will work!. IEEE Access, Aug 2013;1:335-349. 16. Jindal N and Lozano A. Aunified treatment of optimum pilot overhead in multipath fading channels. IEEE Trans. Commun; Oct 2010;58:2939:2948 17. Li C, Zhang J, Letaief K.B. Throughput and energy efficiency analysis of small cell networks with multi-antenna base stations, IEEE Trans. Wireless Commun; May 2014;13:2505-2517. 18. Buzzi S, Colavolpe G, Saturnino D, Zappone A. Potential games for energy-efficient power control and subcarrier allocation in uplink multicell OFDMA systems, IEEE se. Topics Signal Process, Apr 2012;6:89-103 19. S. K. Bandari, V. V. Mani and A. Drosopoulos, "OQAM implementation of GFDM," 2016 23rd International Conference on Telecommunications (ICT), Thessaloniki, 2016, pp. 1-5.		**224-228**
45.	**Authors:**	**Madhu Nakerikanti, Raja Murali Prasad, Sriram Srujan, Musthyala Saikrishna, Sekhar M**	
	Paper Title:	**Sharp Rejection Microstrip Ultra-Wide Bandstop Filter**	
	Abstract: In this paper, a sharp rejecting ultra wide bandstop filter (BSF) design is demonstrated. To get sharp rejection at pass bands a model is considered with three zero levels in transmissions by implementing this we can		**229-231**

achieve stop band characteristics also. Bandwidth of the stop band and depth of the stop band can be varied and controlled by the Impedances of configuration used in the design. In order to derive design equations here we have used a simple model of a lossless transmission line. Further, for convenient folding of the design low impedance sections were replaced by its compact geometry. To support the theoretical values, a band stop filter which is having a sharp rejection at 10dB with a rejection bandwidth of 44% ranging from 0.77GHz to 1.1GHz has been designed and fabricated.

Keywords: Ultra wideband, bandstop filter, Transmission zeros.

References:

1. D. M. Pozar, Microwave Engineering, 2nd ed. New York: Wiley, 1998.
2. A. Gorur and C. Karpuz, "Uniplanar compact wideband bandstop filter," IEEE Microw Wireless Compon.Lett., vol. 13, no. 3, pp. 114–116, Mar. 2003.
3. M. Hsieh and S. Wang, "Compact and wideband microstrip bandstop filter," IEEE Microw.Wireless Compon.Lett., vol. 15, no. 7, pp. 472–474, Jul. 2005.
4. M.K. Mandal, V.K.Velidi, and S.Sanyal,"Design of ultra-wideband bandstop filter with three transmission zeros," Wiley Microw. Optical Tech. Lett., vol. 50, no. 11, pp. 2955–2957, Nov. 2008.
5. M. K. Mandal and S.Sanyal,"Compact bandstop filter using signal interference technique,"IEE Electron.Lett., pp. 110–111, Jan. 2007.
6. K. Divyabramham, M. K. Mandal, and S. Sanyal, "Sharp-rejection wideband bandstop filters," IEEE Microw.WirelessCompon.Lett., vol. 18, no. 10, pp. 662–664, Oct. 2008.
7. J. S.Hong and M. J.Lancaster, Microstrip Filters for RF/Microwave Applications. New York: Wiley, 2001.

46.

Authors: **A.Mounika Durga, Shaik.Jakeer Hussain**

Paper Title: **Optimization of Channel Precoding for mm wave Massive MIMO using Hybrid Precoding**

Abstract: mm wave communication system encounters the higher path loss than the microwave communication system. To defeat the path loss problem massive number of antennas with low wavelength are deployed at transmitter and receiver side. To transmit multiple data streams and to get better spectral efficiency precoding is required. Developing the hybrid Precoding is economically high and consumes more power and it is divided in to analog and digital parts. Due to the presence of large antennas and analog part in the hybrid precoding, mm wave massive MIMO requires some special algorithms to do the channel estimation and precoding. To construct the sparse Precoding and combining problems in mm wave massive MIMO we are considering the channel as spatial structure. In this paper sparse precoding is designed based on the orthogonal basis pursuit algorithm for mm wave massive MIMO by using optimal unconstrained precoder.

Keywords: mm wave Massive MIMO, Channel estimation, Precoding, orthogonal basis pursuit.

References:

1. Rappaport, Theodore S., Shu Sun, Rimma Mayzus, Hang Zhao, Yaniv Azar, Kevin Wang, George N. Wong, Jocelyn K. Schulz, Mathew Samimi, and Felix Gutierrez Jr. "Millimeter wave mobile communications for 5G cellular: It will work!." IEEE access 1, no. 1 (2013): 335-349.
2. Torkildson, Eric, Colin Sheldon, Upamanyu Madhow, and Mark Rodwell. "Millimeter-wave spatial multiplexing in an indoor environment." In Proc. IEEE Globecom Workshops, pp. 1-6. 2009.
3. Torkildson, Eric, Bharath Ananthasubramaniam, Upamanyu Madhow, and Mark Rodwell. "Millimeter-wave MIMO: Wireless links at optical speeds." In Proc. of 44th Allerton Conference on Communication, Control and Computing, pp. 1-9. 2006.
4. Tse, David, and Pramod Viswanath. Fundamentals of wireless communication. Cambridge university press, 2005.
5. Wesel, Richard D., and John M. Cioffi. "Achievable rates for Tomlinson-Harashima precoding." IEEE Transactions on Information Theory 44, no. 2 (1998): 824-831.
6. Wang, Junyi, Zhou Lan, Chang-Woo Pyo, Tuncer Baykas, Chin-Sean Sum, Mohammad Azizur Rahman, Jing Gao et al. "Beam codebook based beamforming protocol for multi-Gbps millimeter-wave WPAN systems." IEEE Journal on Selected Areas in Communications 27, no. 8 (2009): 1390-1399.
7. Doan, Chinh H., Sohrab Emami, David A. Sobel, Ali M. Niknejad, and Robert W. Brodersen. "Design considerations for 60 GHz CMOS radios." IEEE Communications Magazine42, no. 12 (2004): 132-140.
8. Pi, Zhouyue, and Farooq Khan. "An introduction to millimeter-wave mobile broadband systems." IEEE communications magazine 49, no. 6 (2011).
9. Valdes-Garcia, Alberto, Sean T. Nicolson, Jie-Wei Lai, Arun Natarajan, Ping-Yu Chen, Scott K. Reynolds, Jing-Hong Conan Zhan, Dong G. Kam, Duixian Liu, and Brian Floyd. "A fully integrated 16-element phased-array transmitter in SiGe BiCMOS for 60-GHz communications." IEEE journal of solid-state circuits 45, no. 12 (2010): 2757-2773.
10. Zeng, Yong, and Rui Zhang. "Millimeter wave MIMO with lens antenna array: A new path division multiplexing paradigm." IEEE Transactions on Communications 64, no. 4 (2016): 1557-1571.
11.] El Ayach, Omar, Sridhar Rajagopal, Shadi Abu-Surra, Zhouyue Pi, and Robert W. Heath. "Spatially sparse precoding in millimeter wave MIMO systems." IEEE transactions on wireless communications 13, no. 3 (2014): 1499-1513.
12. Cordeiro, Carlos, Dmitry Akhmetov, and Minyoung Park. "IEEE 802.11 ad: Introduction and performance evaluation of the first multi-Gbps WiFi technology." In Proceedings of the 2010 ACM international workshop on mmWave communications: from circuits to networks, pp. 3-8. ACM, 2010.
13. Venkateswaran, Vijay, and Alle-Jan van der Veen. "Analog beamforming in MIMO communications with phase shift networks and online channel estimation." IEEE Transactions on Signal Processing 58, no. 8 (2010): 4131-4143.
14. Tan, Weiqiang, Michail Matthaiou, Shi Jin, and Xiao Li. "Spectral efficiency of DFT-based processing hybrid architectures in massive MIMO." IEEE Wireless Communications Letters 6, no. 5 (2017): 586-589.
15. Tse, David, and Pramod Viswanath. Fundamentals of wireless communication. Cambridge university press, 2005.
16. El Ayach, Omar, Sridhar Rajagopal, Shadi Abu-Surra, Zhouyue Pi, and Robert W. Heath. "Spatially sparse precoding in millimeter wave MIMO systems." IEEE transactions on wireless communications 13, no. 3 (2014): 1499-1513.
17. Kailath, Thomas, Ali H. Sayed, and Babak Hassibi. "Linear estimation, vol. 1." (2000).

232-236

47.

Authors: **Sunkaraboina Sreenu, Sekhar M**

Paper Title: **Compact Dual Band Printed Dipole Antenna For Wireless Communication Systems**

Abstract: A dual band printed dipole arm compact antenna has been proposed for the wireless communication systems in this paper. Proposed antenna radiates at the dual frequencies of 1.91GHz and 4.68GHz which are useful in Radiolocation and satellite mobiles. To design the antenna a low cost glass epoxy FR4 substrate has been utilised. The

237-240

overall dimension of the antenna is 42mm×42mm×1.6mm. Microstrip line feed is used to feed the dipole arms. A considerable gain of 4.2dB and 2.3dB is observed at the two resonating frequencies. The antenna structure consists of three printed dipole arms of which two are useful for the resonance and the remaining arm is used to achieve proper impedance matching.

Keywords: Dual Band, Compact, Printed Dipole

References:

1. Kakaria, P.; Nema, R., "Review and survey of compact and broadband \Microstrip Patch Antenna," in Advances in Engineering and Technology Research (ICAETR), Vijayawada, India, 2014, pp. 1-5.
2. K.L. Wong, G.Y. Lee, and T.W.Chiou, "A low-profile planar monopole antenna for multiband operation of mobile handsets," IEEE Transactions on Antennas and Propagation, January 2003, vol. 51, no. 1, pp. 121-125.
3. Y.X. Guo and H.S. Tan, "New compact sixband internal antenna," IEEE Antennas and Wireless Propagation Letters, 2004, vol. 3, pp. 295-297.
4. Ang, Y.X. Guo, and M.Y.W. Chia, "Compact Internal Quad-Band,"Microwave and Optical Technology Letters, June 2003, vol. 38, no. 3,pp. 217-223.
5. Sekhar M, Siddaiah P "Triple Frequency Circular Patch Antenna" 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
6. E. Kusuma Kumari, A.N.V.Ravi Kumar "Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
7. E. Kusuma Kumari, A.N.V.Ravi Kumar "Development of an L Band Beam Steering Cuboid Antenna Array" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
8. Sunkaraboina Sreenu, Vadde Seetharama Rao, "Stacked Microstrip Antenna For Global Positioning System" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
9. Rao N.A., Kanapala S., " Wideband Circular Polarized Binomial Antenna Array for L-Band Radar". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
10. Kanapala S., Rao N.A., "Beam Steering Cuboid Antenna Array for L Band RADAR". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore.

48.

Authors:	**E. Kusuma Kumari, Sekhar M**
Paper Title:	**Printed Monopole UWB Antenna with Dual Notch Bands**

Abstract: A UWB antenna with simple semi circular monopole antenna fed by a microstrip line with a semi circular ground plane is presented in this paper to achieve a operating bandwidth from 3.1GHz to 10.6GHz. Low cost FR4 glass epoxy material with a dimesnion of 30mm×32mm×1.6mm has been used to design the antenna. Proposed antenna is incorporated with two complimentary rectangular ring slots with discontinuities. The rectangular slots are placed such that the discontinuities face opposite to each other and it will generate a static resonance which is the reason for the dual notch bands covering the frequency ranges of WiMAX and WLAN.

Keywords: Monopole, Complimentary slots, partial ground, Dual Notch.

References:

1. I. J. Yoon, H. Kim, H. K. Yoon, Y. J. Yoon, Y. -H. Kim, "Ultrawideband tapered slot antenna with band cutoff characteristic,"Electronics Letter, vol. 41(11), pp. 629-630, 2005.
2. M, Mchranpour, J. Nourinia, Ch. Ghobadi, M. Ojaroudi, "Dual bandnotched square monopole antenna for ultra wideb and applications," IEEE Antennas and Wireless Propagation Letters, vol. 11, pp.172-175, 2012.
3. N. Ojaroudi, M.Ojaroudi, N. Ghadimi, " Dual band-notched small monopole antenna with novel W-shaped conductor backed-plane and novel T-shaped slot for UWB applications,"IET Microwave Antennas & Propagation, vol.7(1), pp. 8-14, 2013.
4. Wen Tao Li, Yong Qiang Hei, Wei Feng, Xiao Wei Shi, "Planar antenna for 3G/Bluetooth/WiMAX and UWB applications with dualbandnotched characteristics," IEEE Antennas and Wireless Propagation Letters, vol. 11, pp.61-64, 2012.
5. Seyed Ramin Emadian, Changiz Ghobadi, Javad Nourinia, Mir Hamed Mirmozafari, Javad Pourahmadazar, "Bandwidth enhancement of CPWfed circl-like slot antenna with dual band notched characteristic," IEEE Antennas and Wireless Propagation Letters, vol. 11, pp.543-546, 2012.
6. Sekhar M, Siddaiah P "Triple Frequency Circular Patch Antenna" 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
7. E. Kusuma Kumari, A.N.V.Ravi Kumar "Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
8. E. Kusuma Kumari, A.N.V.Ravi Kumar "Development of an L Band Beam Steering Cuboid Antenna Array" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
9. Sunkaraboina Sreenu, Vadde Seetharama Rao, "Stacked Microstrip Antenna For Global Positioning System" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
10. Rao N.A., Kanapala S., " Wideband Circular Polarized Binomial Antenna Array for L-Band Radar". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
11. Kanapala S., Rao N.A., "Beam Steering Cuboid Antenna Array for L Band RADAR". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore.

49.

Authors:	**Venkatappareddy.P, M. Deepthi**
Paper Title:	**Sum of step approximation of a novel non linear activation function**

Abstract: In this manuscript, we propose sum of steps approximation of a novel nonlinear activation function tunable ReLU for VLSI architecture implementation of neural networks. The characteristics of the proposed activation function depend on a tunable parameter and input data set values. Also, we propose a linear-in-the-parameter model for the proposed activation function using an even mirror Fourier nonlinear filter. Finally, simulation results are presented to show performance of the proposed activation function on various data sets and observe its superiority against to other activation functions.

Keywords: Activation function, perceptron, tunable ReLU, deep neural network, EMFN filter.

References:

1. LeCun, Yann, Yoshua Bengio, and Geoffrey Hinton,"Deep learning". nature 521, no. 7553 (2015): 436.
2. Montavon, Grgoire, Wojciech Samek, and Klaus-Robert Mller, "Methods for interpreting and understanding deep neural networks". Digital Signal Processing (2017).
3. Hou, Weilong, Xinbo Gao, Dacheng Tao, and Xuelong Li, "Blind image quality assessment via deep learning". IEEE transactions on neural networks and learning systems 26, no. 6 (2015): 1275-1286.
4. Liu, Qingju, Wenwu Wang, Philip JB Jackson, and Yan Tang, "A perceptually-weighted deep neural network for monaural speech enhancement in various background noise conditions". In Signal Processing Conference (EUSIPCO), 2017 25th European, pp. 1270-1274. IEEE, 2017.
5. Krizhevsky, Alex, Ilya Sutskever, and Geoffrey E. Hinton, "Imagenet classification with deep convolutional neural networks". In Advances in neural information processing systems, pp. 1097-1105. 2012.
6. Sutskever, Ilya, Oriol Vinyals, and Quoc V. Le, "Sequence to sequence learning with neural networks". In Advances in neural information processing systems, pp. 3104-3112. 2014.
7. Hinton, Geoffrey, Li Deng, Dong Yu, George E. Dahl, Abdel-rahman Mohamed, Navdeep Jaitly, Andrew Senior et al., "Deep neural networks for acoustic modeling in speech recognition: The shared views of four research groups". IEEE Signal Processing Magazine 29, no. 6 (2012): 82-97.
8. Duch, W. and Jankowski, N., 1997. New neural transfer functions. Applied Mathematics and Computer Science, 7, pp.639-658.
9. Glorot, Xavier, Antoine Bordes, and Yoshua Bengio, "Deep sparse rectifier neural networks". In Proceedings of the Fourteenth International Conference on Artificial Intelligence and Statistics, pp. 315-323. 2011.
10. Wiatowski T, Blcskei H. A mathematical theory of deep convolutional neural networks for feature extraction. IEEE Transactions on Information Theory. 2018 Mar;64(3):1845-66.
11. Clevert, Djork-Arn, Thomas Unterthiner, and Sepp Hochreiter, "Fast and accurate deep network learning by exponential linear units (elus)". 4th international conference on ICLR, San Juan, US, (2016).
12. Klambauer G, Unterthiner T, Mayr A, Hochreiter S. Self-normalizing neural networks. InAdvances in Neural Information Processing Systems 2017 (pp. 971-980).
13. Beiu, Valeriu, J. A. Peperstraete, Joos Vandewalle, and Rudy Lauwereins, "Closse approximations of sigmoid functions by sum of step for VLSI implementation of neural networks". Sci. Ann. Cuza Univ. 3 (1994): 5-34.
14. A. Carini, G. L. Sicuranza, "Recursive even mirror fourier nonlinear filters and simplified structures". IEEE Trans. Signal Process., 62(24), 6534-6544 (2014).
15. Gulcehre, Caglar, Marcin Moczulski, Misha Denil, and Yoshua Bengio,"Noisy activation functions". In International Conference on Machine Learning, pp. 3059-3068. 2016.
16. Atkinson, Kendall E, "An introduction to numerical analysis". John Wiley & Sons, 2008.
17. A. Friedman, "Foundations of modern analysis". Courier Corporation,(1970).
18. W. Rudin, "Principles of mathematical analysis". New York: McGraw- Hill, Vol. 3, (1964).
19. https://www.csie.ntu.edu.tw/cjlin/libsvmtools/datasets/./.

50.

Authors: **M.V. Ramanjaneyulu, Varma P. L. N, D. Reddy Babu**

Paper Title: **Self-Centeredness of Derived Graphs Using D-Distance**

Abstract: In communication networks, the number of switches on the short- est path between input and output that are farthest apart is the diameter of network. Thus an approximate measure of worst case latency is given by diameter. We study graphs for which the radius and diameter are equal using D-distance in this article. We study the D-self-centeredness of a graph and its derived graphs, namely, line graph, middle graph and total graph using D-distance. We end the article with some open problems.

References:

1. M.V. Ramanjaneyulu, L.N. Varma, P., D. Reddy Babu, Self Centered Self Graphs w.r.t D-Distance, Proceedings of the DST-SERB sponsored National Conference Essence of Math- ematics and Engineering Applications, KLEF, Vaddeswaram, 22-25, (ISBN 9788193063880)
2. M.V. Ramanjaneyulu, L.N. Varma, P., D. Reddy Babu, Self Centeredness of Total Graphs w.r.t. D-Distance, Int. Jour. of Engg. and Tech., 7(4.10), 2018, 366-370.
3. M.V. Ramanjaneyulu, L.N. Varma, P., D. Reddy Babu, Self-centeredness of Derived Graphs using D-distance - II, Preprint, 2018.
4. D. Reddy Babu, L.N. Varma, P., D-distance in Graphs, Golden Research Thoughts, 2 (2013) 53-58.

251-256

51.

Authors: **K.Annapurna, T.Hymavathi, B.Seetha Ramanjaneyulu**

Paper Title: **Spectrum Availability Prediction For Cognitive Radio Networks**

Abstract: Cognitive radio networks enable the secondary users to make use of the frequency spectrum of primary users in the absence of the latter. To make this mechanism possible, secondary users have to sense the spectrum to find vacant channels to occupy them as well as to vacate the occupied channels when their primary users come back. ANFIS based spectrum prediction is proposed in this work to improve the spectrum utilization, reduce interference to primary users, enhance quality of service to secondary users and save sensing energy and time. Comparison of predicted data with actual data shows that the predicted occupancy of spectrum is close to the actual occupancy.

Keywords: Spectrum Prediction, ANFIS, Cognitive Radio Networks, Opportunistic Channel Access.

References:

1. FCC. second report and order memorandum opinion and order, ET Docket No. 08-260, 2008.
2. J. Mitola and G. Q. Maguire., "Cognitive radio: making software radios more personal", IEEE Personal Communications, 6(4), 13-18, 1999.
3. R. W. Thomas, D. H. Friend, L. A. Dasilva and A. B. Mackenzie, "Cognitive networks: adaptation and learning to achieve end-to-end performance objectives", IEEE Communications Magazine, 44(12), 51- 57, 2006.
4. Mitola, J., "Cognitive radio: An integrated agent architecture for software defined radio", Doctor of Technology. Royal Inst. Technol. 271-350, 2000.
5. J. Mitola, "Cognitive Radio Architecture Evolution", Proceedings of IEEE, 97(4), 626-641, 2009.
6. Z. Chen, N. Guo, Z. Hu and R. C. Qiu., "Channel state prediction in cognitive radio Part II: Single-user prediction", 2011 Proceedings of IEEE Southeastcon, Nashville, TN, 50-54, 2011.
7. X. Xing, T. Jing, W. Cheng, Y. Huo and X. Cheng., "Spectrum prediction in cognitive radio networks", IEEE Wireless Communications, 20(2), 90-96, 2013.
8. K. Tsagkaris, A. Katidiotis and P. Demestichas, " Neural network- based learning schemes for cognitive radio systems", computer communications, 31(14), 3394-3404, 2008.

257-260

9. Vamsi Krishna Tumuluru, Ping Wang, Dusit Niyato, “Channel Status Prediction for cognitive radio networks”, Wireless communications and mobile computing, 12(10), 862-874, 2012.
10. A. Agarwal, S. Dubey, M. A. Khan, R. Gangopadhyay and S. Debnath, “Learning based primary user activity prediction in cognitive radio networks for efficient dynamic spectrum access”, 2016 International Conference on Signal Processing and Communications (SPCOM), Bangalore, 1-5, 2016.
11. R. Heydari, S. Alirezaee, A. Ahmadi, M. Ahmadi and I. Mohammadsharifi, “Primary user activity prediction using the hidden Markov model in cognitive radio networks”, 2015 International Symposium on Signals, Circuits and Systems (ISSCS), Iasi, 1-4, 2015.
12. J. Jacob, B. R. Jose and J. Mathew, “Spectrum Prediction in Cognitive Radio Networks: A Bayesian Approach”, 2014 Eighth International Conference on Next Generation Mobile Apps, Services and Technologies, Oxford, 203-208, 2014.
13. T. Jing, X. Xing, W. Cheng, Y. Huo and T. Znati. “Cooperative spectrum prediction in multi-PU multi-SU cognitive radio networks”, 8th International Conference on Cognitive Radio Oriented Wireless Networks, Washington, DC, 25-30,2013.
14. F. Hou, X. Chen, H. Huang and X. Jing, “Throughput performance improvement in cognitive radio networks based on spectrum prediction”, 16th International Symposium on Communications and Information Technologies (ISCIT), Qingdao, 655-658, 2016.

52.

Authors: **T. Akhila Sree, P. Satish, P. Rajesh, M.Sekhar**

Paper Title: **Four Bit Digital Phase Shifter ForElectronic Beam Steering Applications**

Abstract: A Four bit Digital Phase shifter is Proposed in this paper which is capable of generating four different phases of 22.50,450,900,1800. The phase shifting is done using four different sections comprising of low pass and high pass filters in the circuit where each section will produce a respective phase shift depending upon the input digital control bits which control the operation of the four sections. The phase shifter is designed to serve the ISM band application with a center frequency of 900MHz and a bandwidth of 200MHz ranging from800MHz to 1000MHz. Phase errors of 0.50, 0.30, 1.60, 2.60 are observed at 1800, 900, 450 and 22.50 respectively. A minimal variation of 1.5dB in insertion loss is observed for the entire operating bandwidth.

Keywords: Digital Phase Shifter, Filter, Digital Control bits, ISM band.

References:

1. NXP website – Data sheet of BAP51_04W pin diodes http://www.nxp.com/documents/data_sheet/BAP51-04W_N.pdf
2. Muhammad Tayyab Qureshi “Design of 4-bit phase shifter using PIN diodes and High-Pass/Low-Pass topology at 2.45GHz” Work yet to be published by Chalmers University,Sweden; Available in NXP internal project archives
3. NXP website- Inverter IC 74AHC240 data sheet http://www.nxp.com/documents/data_sheet/74AHC_AHCT240.pdf
4. Learn about-electronics website on sine wave measurements http://www.learnaboutelectronics.org/ac_theory/ac_waves02.php
5. Wikipedia webpage on ISM bands http://en.wikipedia.org/wiki/ISM_band
6. Hayashi, H.; Mauraguchi, M.;"An MMIC active phase shifter using a variable resonant circuit [and MESFETs]," Microwave Theory and Techniques, IEEE Transactions on, vol.47, no.10, pp.2021-2026, Oct 1999 doi: 10.1109/22.795078
7. Miyaguchi, K.; Hieda, M.; Nakahara, K.; Kurusu, H.; Nii, M.; Kasahara, M.; Takagi, T.; Urasaki, S.; "An ultra-broad-band reflection-type phase-shifter MMIC with series and parallel LC circuits," Microwave Theory and Techniques, IEEE Transactions on, vol.49, no.12, pp.2446-2452, Dec 2001 doi: 10.1109/22.971634
8. Ellinger, F.; Bachtold, W.; "Novel principle for vector modulator-based phase shiftersOperating with only one control voltage," Solid-State Circuits, IEEE Journal of, vol.37, no.10, pp. 1256- 1259, Oct 2002 doi: 10.1109/JSSC.2002.803014
9. Gupta, N.; Tomar, R.; Bhartia, P.; "A Low-Loss Voltage-Controlled Analog Phase-Shifter Using Branchline Coupler and Varactor Diodes," Microwave and Millimeter Wave Technology,2007. ICMMT'07. International Conference on, vol., no., pp.1-2, 18-21 April 2007 doi: 10.1109/ICMMT.2007.381435.

261-265

53.

Authors: **Sekhar M, T.V.Murali Krishna**

Paper Title: **Multi Band Slotted Planar Antenna for Maritime Applications**

Abstract: A Triple frequency printed patch antenna for the wireless communication systems has been proposed in this paper. Proposed antenna radiates at the frequencies of 8.96GHz, 14.25GHz and 18.78GHz which are useful in Maritime applications. Low cost glass epoxy FR4 substrate has been used to design the antenna. The overall dimension of the antenna is 14.3mm×14.3mm×2mm. Microstrip line feed is used to feed the patch antenna. A considerable gain of 5.64dB, 4.25dB and 4.04dB for the operating frequencies of 8.96GHz, 14.25GHz and 18.78GHz and respectively. The antenna structure consists of two symmetrical slots which are useful for the multiple resonance and for proper impedance matching.

Keywords: Linear polarization, single layer, multi band, HFSS, Return Loss.

References:

1. Sekhar M, Siddaiah P “Triple Frequency Circular Patch Antenna” 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
2. E. Kusuma Kumari, A.N.V.Ravi Kumar “Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar” 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
3. E. Kusuma Kumari, A.N.V.Ravi Kumar “Development of an L Band Beam Steering Cuboid Antenna Array” 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
4. Sunkaraboina Sreenu, Vadde Seetharama Rao, “Stacked Microstrip Antenna For Global Positioning System” 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
5. Rao N.A., Kanapala S., “ Wideband Circular Polarized Binomial Antenna Array for L-Band Radar”. In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
6. Kanapala S., Rao N.A., “Beam Steering Cuboid Antenna Array for L Band RADAR”. In: Panda G., Satapathy S., Biswal B., Bansal R. Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore.
7. Sekhar M, Chaturvedi T, Siddaiah P “Quad Band Triangular Ring Slot Antenna” International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015 1637, ISSN 2229-5518.
8. Sekhar M, Siddaiah P “Performance of Feed on Dual Frequency Antenna in Ka-Band” International Journal of Innovative Research In Electrical, Electronics, Instrumentation And Control Engineering (IJIREEICE), Vol. 2, Issue 5, May 2014. ISSN (Online) 2321 – 2004.
9. John L. Volakis, Antenna Engineering Handbook, 4nd Ed., McGraw-Hill.
10. C.A. Balanis, Antenna Theory, 2nd Ed., John wily & sons, Inc., NewYork.1982.
11. Girish Kumar and K.P.Ray, “Broadband Microstrip Antennas,” Artech House.
12. Debatosh Guha and Yahia M.M.Antar, “Microstrip and Printed Antennas,” John wily & sons, Inc.

266-269

54.	**Authors:**	**Joshua Reginald Pullagura, D.Venkata Rao**
	Paper Title:	**Secured Residual Power Aware Routing Protocol for Manets**

Abstract: The MANETs are a form of wireless communication in which the routing is done via mobile nodes. As these are mobile means they are having mobility nature and there is no static position of nodes. The routing is based on the protocol chosen, there are so many routing protocols for communication. In earlier days the routing is based on traditional protocols which required centralized administration and monitoring. Later on, Mobile Adhoc Networks are evolved which provided users with wireless communication capabilities like dynamic topologies, cooperativeness, scaling of network and infratsructureless capabilities etc. The major challenges in Manets are security and energy consumption. The nodes are operated with the help of energy source so the energy management is a primary concern in network. The routing protocol consists of mobile nodes and scaling of network may allow malicious nodes/ intruder into network. The protocol proposed in this paper takes care of energy management as well as security mechanism. The Secured Residual Power Aware Routing (SRPAR) provides users to choose the path with maximum lifetime and provides session keys to enhance the security aspect. The session key is provided with the use of Diffie Hellman algorithm. It provides authentication and prevents the new node and intruder node to enter into routing without authentication.

Keywords: MANETs, SRPAR, security, energy, routing.

References:

1. Nandkishor M.Pawar, Nandkishor P.Karlekar, "A survey on energy efficient routing protocols in MANET", International Journal of Computer Science and Mobile Computing (IJCSMC), ISSN 2320-088X, Vol.3, Issue. 12, December 2014, pg.133-139.
2. P. Sathya Priya, Seethalakshmi.V, G.Mohan Kumar, "Efficiency enhancement of energy aware ad hoc routing protocols", International Journal of Computer Networking, Wireless and Mobile Communications (IJCNWMC) ISSN 2250-1568, Vol.3, Issue 1, Mar 2013, 209-220.
3. Dharam Vir, S.K.Agarwal, S.A.Imam, Lalit Mohan, "Performance analysis of MTPR routing protocol in power deficient node", International Journal on AdHoc Networking Systems(IJANS), Vol.2, No.4, October 2012 DOI:10.5121/ijans.2012.240767.
4. Heena Mital, Lokesh Kumar, "Research paper on hybrid model of AODV & MTPR for MANET", International Journal of Enhanced Research in Management & Computer Applications, ISSN:2319-7471, Vol. 4 Issue 9, September-2015.
5. Jaspreet Singh, Kartik Sharma, "Energy efficient AODV routing protocol for mobile adhoc networks", International Journal of Advanced Research in Computer and Communication Engineering, Vol. 4, Issue 9, September2015, DOI: 10.17148/IJARCEE.2015.4928.121.
6. Krishna Chennakesava Rao M, Maheswar Vissa, Mrudula S, Ashutosh Kumar Dixit," Energy Efficient Cluster based Routing Protocol for Wireless Sensor Networks" IEEE-International Conference on Control, Instrumentation, Communication Computational Technologies (IEEE-ICCICCT 2015), December 2015. DOI: 10.1109/ICCICCT.2015.7475390
7. Reena Singh, Shilpa Gupta, "EE-AODV: Energy Efficient AODV routing protocol by optimizing route selection process", International Journal of Research in Computer and Communication Technology (IJRCCT), Vol. 3, Issue 1, January-2014.
8. Archan Misra, Suman Banerjee, "MRPC:Maximizing Network Lifetime for Routing in Wireless Environments", IEEE Wireless Communications and Networking Conference (WCNC) 2002, March 2002.
9. G.Varaprasad, "Power Aware and Signal Strength Based Routing Algorithm for Mobile AdHoc Networks", 2011 International Conference on Communication Systems and Network Technologies, DOI: 10.1109/CSNT.2011.34.
10. Shivashankar, Hosahalli NarayanaGowda Suresh, Golla Varaprasad, Guruswamy Jayanthi, "Designing Energy Routing Protocol with Power Consumption Optimization in MANET", IEEE Transactions on Emerging Topics in Computing, October 2013, DOI: 10.1.09/TETC.2013.2287177.

270-274

55.	**Authors:**	**Sri Jagadeesh. R, Meghalatha.CK, Krishna Chaitanya.K, B.Seetha Ramanjaneyulu**
	Paper Title:	**Efficient Spectrum Sensing and Decision making for Utilizing TV White Spaces**

Abstract: Accurate sensing of spectrum is important while utilizing the TV white space frequencies using cognitive radio mechanism. The secondary user needs to know whether the channel is occupied by the primary user or it is vacant. It is also needed to vacate the channel within reasonable time, when the primary user returns back. In this paper, two methods are proposed to aid the process of channel acquisition and handoff of Television white space (TVWS) frequencies, by secondary users. These are based on sensing the spectrum with appropriate intervals and carrying out background sensing of channels. It is found that these methods offer better sensing with low latency and high QoS.

Keywords: TVWS, Spectrum Access, Cognitive Radio, Background Sensing, Channel Allocation

References:

1. Spectrum Policy Task Force report, Technical report 02-135, Federal Communications commission, Nov. 2002.
2. Mitola J, Maguire G.Q, "Cognitive Radio: Making Software Radios More Personal", IEEE Personal Communications, pp. 13 – 18, August 1999,.
3. Joseph Mitola, "Cognitive Radio: An Integrated Agent Architecture for Software Defined Radio", PhD dissertation at Royal Institute of Technology (KTH) Stockholm, Sweden, May 2000
4. Mitola J, "Cognitive Radio Architecture Evolution", Proceedings of IEEE, Vol.97, No.4, pp. 626-641, 2009
5. Ryan W. Thomas, Daniel H. Friend, Luiz A. DaSilva, and Allen B. MacKenzie, "Cognitive Networks: Adaptation and Learning to Achieve End-to-End Performance Objectives", IEEE Communications Magazine, pp. 51 -57, December 2006
6. Won-Yeol Lee; Akyildiz, I.F., "Optimal spectrum sensing framework for cognitive radio networks", IEEE Transactions on Wireless Communications, Vol. 7, No. 10, 2008, pp.3845 – 3857
7. Ian F. Akyildiz, W.-Y. Lee, M. C. Vuran, and S. Mohanty, "NeXt Generation/Dynamic Spectrum Access/Cognitive Radio Wireless Networks: A Survey," Elsevier's Computer Networks Journal, September 2006
8. Yonghong Zeng, and Ying-Chang Liang "Eigenvalue-Based Spectrum Sensing Algorithms for Cognitive Radio", IEEE Transactions on Communications, Vol.57, No.6, 2009, pp. 1784-1793
9. Ian F. Akyildiz, Won-Yeol Lee, Mehmet C. Vuran, and Shantidev Mohanty, "A Survey on Spectrum Management in Cognitive Radio Networks", IEEE Communications, 2008, pp. 40-48
10. Won-Yeol Lee; Akyldiz, I.F, "A Spectrum Decision Framework for Cognitive Radio Networks", IEEE Transactions on Mobile Computing, Vol. 10, No. 2, 2011, pp.161 - 174.
11. Yiping Xing, Chandramouli R, Mangold S, "Dynamic Spectrum Access in Open Spectrum Wireless Networks", IEEE Journal on Selected Areas In Communications, VOL. 24, NO. 3, , pp. 626 – 637, 2006
12. Ruiliang Chen, Jung-Min Park, and Jeffrey H. Reed, "Defense against Primary User Emulation Attacks in Cognitive Radio Networks", IEEE Journal on Selected Areas of Communications, Vol. 26, No. 1, 2008, pp. 25-37
13. Ankit Singh Rawat, Priyank Anand, Hao Chen, and Pramod K. Varshney, "Collaborative Spectrum Sensing in the Presence of Byzantine Attacks in Cognitive Radio Networks", IEEE Transactions on Signal Processing, Vol. 59, No. 2, 2011

275-279

14. Vempaty A, Agrawal K, Varshney P, Hao Chen, "Adaptive learning of Byzantines' behavior in cooperative spectrum sensing", in Proc. IEEE Wireless Communications and Networking Conference (WCNC), 2011, pp. 1310 – 1315.
15. Jayaweera S.K, Vazquez-Vilar G, Mosquera C, "Dynamic Spectrum Leasing: A New Paradigm for Spectrum Sharing in Cognitive Radio Networks", IEEE Transactions on Vehicular Technology, Volume: 59 , Issue: 5, 2010 , pp. 2328 – 2339.
16. Hakim K, Jayaweera S.K, El-Howayek G, Mosquera C, "Efficient Dynamic Spectrum Sharing in Cognitive Radio Networks: Centralized Dynamic Spectrum Leasing (C-DSL)", IEEE Transactions on Wireless Communications, Volume: 9 , Issue: 9, 2010, pp. 2956 – 2967.
17. El-Howayek G, Jayaweera S.K, "Distributed Dynamic Spectrum Leasing (D-DSL) for Spectrum Sharing over Multiple Primary Channels", IEEE Transactions on Wireless Communications,Volume:10,Issue:1,2011,pp.55–60.
18. Kefeng Tan, Kyungtae Kim, Yan Xin, Rangarajan S,Mohapatra P., "RECOG: A Sensing-Based Cognitive Radio System with Real-Time Application Support", IEEE journal on Selected Areas in Communications, Volume: 31 , Issue: 11, 2013 , pp. 2504 – 2516.
19. Shu T, Li H, "QoS-Compliant Sequential Channel Sensing for Cognitive Radios", IEEE Journal on Selected Areas in Communications, Volume: PP , Issue: 99, 2014 , pp. 1 – 13.

56.

Authors: **E. Swetha, Shaik.Jakeer Hussain**

Paper Title: **Epileptic Seizure Feature Extraction using Variational Mode Decomposition**

Abstract: Signal processing for extracting the features of biosignals needs an adaptive processing techniques. Most of the biosignals such as EEG are non stationary signals. Therefore extracting the features of these non stationary signals are the challenges faced by the researchers. Many frequency domain techniques are proposed such as Hilbert transform, DWT, EMD. The most popular recent EMD technique is to achieve the accurate denoising & interpretation, but it fails to decompose the signal effectively and also due to lack of mathematical model or proof's, choice of interpolation, and sensitivity to both sampling and noise. Hence the new emerging technique Variational mode decomposition (VMD) is used in this paper to extract the features of EEG signal. The advantage of using VMD, is lusty to sampling and noise.

Keywords: Epileptic seizure, Electro encephalogram(EEG), variational mode decomposition(VMD)

References:

1. K. Dragomiretskiy and D. Zosso, "Variational Mode Decomposition", IEEE Transactions on Signal Processing, vol. 62, no. 3, pp. 531-544, 2014.
2. S. Husain and R. K.S, "An Artificial Neural Network Model for Classification of Epileptic Seizures Using Huang-Hilbert Transform", International Journal on Soft Computing, vol. 5, no. 3, pp. 23-33, 2014.
3. S. Husain and K. Rao, "A Neural Network Model for Predicting Epileptic Seizures based on Fourier-Bessel Functions", International Journal of Signal Processing, Image Processing and Pattern Recognition, vol. 7, no. 5, pp. 299-308, 2014.
4. C. Aneesh, S. Kumar, P. Hisham and K. Soman, "Performance Comparison of Variational Mode Decomposition over Empirical Wavelet Transform for the Classification of Power Quality Disturbances Using Support Vector Machine", Procedia Computer Science, vol. 46, pp. 372-380, 2015.
5. S. Lahmiri, "Comparative study of ECG signal denoising by wavelet thresholding in empirical and variational mode decomposition domains", Healthcare Technology Letters, vol. 1, no. 3, pp. 104-109, 2014.
6. S. Husain and K. Srinivasa.Rao, "Epileptic Seizures Classification from EEG Signals using Neural Networks", 2012 International Conference on Information and Network Technology (ICINT 2012), vol. 37, 2012.
7. S. Lahmiri and M. Boukadoum, "Physiological signal denoising with variational mode decomposition and weighted reconstruction after DWT thresholding", Circuits and Systems (ISCAS), 2015 IEEE International Symposium on, 2015.
8. V. Haykal, H. Cardot and N. Ragot, "A Combination of Variational Mode Decomposition with Neural Networks on Household Electricity Consumption Forecast", Proceedings of ITISE 2017, 2017.
9. U. Maji and S. Pal, "Empirical mode decomposition vs. variational mode decomposition on ECG signal processing: a comparative study.", Advances in Computing, Communications and Informatics (ICACCI), 2016 International Conference on, 2016.
10. A. Kamali Tafreshi, A. Nasrabadi and A. Omidvarnia, "Epileptic seizure detection using empirical mode decomposition", Signal Processing and Information Technology, 2008. ISSPIT 2008. IEEE International Symposium on, 2008.
11. G. Sai Chaitanya Kumar, R. KiranKumar and G. Apparao Naidu, "Variational Mode Decomposition and Multiple Feature Segmentation on Microarray Images", International Journal of Computational Intelligence Research, vol. 13, no. 7, pp. 1777-1787, 2017.
12. Andrzejak, Ralph G., et al. "Indications of nonlinear deterministic and finite-dimensional structures in time series of brain electrical activity: Dependence on recording region and brain state." Physical Review E 64.6 (2001): 061907.
13. http://www.who.int/news-room/fact-sheets/detail/epilepsy

280-283

57.

Authors: **Nelapati Ananda Rao, Sekhar M**

Paper Title: **2×2 Antenna Array for Radiolocation Applications**

Abstract: A four element 2×2 antenna array has been designed and investigated for the radiolocation applications at the X-band frequency of 10GHz. Two different antenna array are been designed with two different radiating element shapes. One antenna array is having rectangular radiating element and the other antenna array is having circular radiating element. Performance comparison has been performed between the two antenna arrays in terms of various antenna parameters like return loss, VSWR, gain, radiation pattern, directivity, mutual coupling etc. Both the antennas are been designed on a low cost easily available FR4 glass epoxy substrate which is having a thickness of 1.6mm Coaxial feed has been used to excite the antenna elements and each element of the antenna array is fed by a independent coaxial feed. Commercial available 3D model simulator tool Ansys HFSS has been used to simulate the antenna array.

Keywords: Antenna Array, X-Band, Coax feed, Mutual Coupling.

References:

1. M.A.Motin et. al. "Design and simulation of a low cost three band microstrip patch antenna for the X-band, Ku-band and K- band applications" 2012 7th International Conference on Electrical and Computer Engineering, 20-22 Dec, Dhaka, Bangladesh.
2. Mustafa Pehlivan ; Yavuz Asci ; Korkut Yegin ; Caner Ozdemir, "X band patch array antenna design for marine radar application" 22nd International Microwave and Radar Conference, 14-17 May 2018, Poznan, Poland.
3. Angeline M. Flashy; A. Vijaya Shanthi,"Microstrip circular antenna array design for radar applications", International Conference on Information Communication and Embedded Systems, 27-28 Feb. 2014, Chennai, India.
4. S. Feng; M.P. Jin, "Broad-band cavity-backed and probe-fed microstrip phased array antenna in X-band" IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, 9-14 July 2017, San Diego, CA, USA.
5. Sekhar M, Siddaiah P "Triple Frequency Circular Patch Antenna" 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
6. E. Kusuma Kumari, A.N.V.Ravi Kumar "Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
7. E. Kusuma Kumari, A.N.V.Ravi Kumar "Development of an L Band Beam Steering Cuboid Antenna Array" 2017 IEEE International

284-288

Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
8. Sunkaraboina Sreenu, Vadde Seetharama Rao, "Stacked Microstrip Antenna For Global Positioning System" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
9. Rao N.A., Kanapala S., " Wideband Circular Polarized Binomial Antenna Array for L-Band Radar". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
10. Kanapala S., Rao N.A., "Beam Steering Cuboid Antenna Array for L Band RADAR". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore

58.

Authors: **M. Laavanya, V. Vijayaraghavan**

Paper Title: **A Sub-Band Adaptive Visushrink in Wavelet Domain for Image Denoising**

Abstract: A novel sub-band adaptive Visushrink approach in wavelet domain for image denoising, is proposed. In the transformed noisy image, the variance of wavelet coefficients will not be same across the scale and mean value of noisy signal will be more. Hence a sub-band adaptive threshold using, noise and signal variance is computed. The proposed threshold is simple and adaptive to the decomposition scale. The wavelet transformed noisy image undergoes thresholding using the proposed threshold. Comparative PSNR evaluation shows that the projected approach is superior to other techniques by removing noise with protection of image edges.

Keywords: Adaptive threshold, DTCWT, Image denoising, PSNR, Visushrink

References:

1. Chang, G. S., Yu, B., and Vetterli, M., "Adaptive wavelet thresholding for image denoising and compression," IEEE Transactions on Image Processing, vol. 9, no. 9, pp. 1532-1546, 2000.
2. Coifman, R and Wickerhauser, M. V., "Wavelets and adapted waveform analysis, Wavelets: Mathematics and Applications", CRC Press, 1994.
3. Donoho, D. L., "Denoising by soft-thresholding", IEEE Transactions on Information Theory, vol. 41, no. 3, pp. 613-627, 1995.
4. Donoho, D. L., and Johnstone, I. M., "Ideal spatial adaptation by wavelet shrinkage", Proceedings in Biometrika, vol. 81, no. 3, pp. 425-455, 1994.
5. Ehsaeyan, E., "A Robust Image Denoising Technique in the Contourlet Transform Domain", IJE Transactions B: Applications, vol. 28, no. 11, pp. 1589-1596, 2015.
6. Ehsaeyan, E., "An Efficient Curvelet Framework for Denoising Images", IJE Transactions B: Applications, vol. 29, no. 8, pp. 1094-1102, 2016.
7. Feng, L., and Lin, L., "Comparative Analysis of Image Denoising Methods Based on Wavelet Transform and Threshold Functions", IJE Transactions B: Applications, vol. 30, no. 2, pp. 199-206, 2017.
8. Hajihashemi, A., and Borna, K., "An Adaptive Hierarchical Method Based on Wavelet and Adaptive Filtering for Magnetic Resonance Imaging Denoization", IJE Transactions A: Basics, vol. 29, no. 1, pp. 31-39, 2016.
9. Khare, A., Tiwary, U. S., Pedrycz, W., and Jeon, M., "Multilevel adaptive thresholding and shrinkage technique for denoising using Daubechies complex wavelet transform," The Imaging Science Journal, vol. 58, pp. 340-358, 2010.
10. Kingsbury, N. G., "Complex wavelets for shift invariant analysis and filtering ofsignals," Applied and Computational Harmonic Analysis, vol. 10, no. 3, pp. 234-253, 2001.
11. Kingsbury, N. G., "Image processing with complex wavelets," Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering, vol. 357, no. 1760, pp. 2543-2560, 1999.
12. Kingsbury, N. G., "The dual-tree complex wavelet transform: A new technique for shift invariance and directional filters," Proceedings in 8th IEEE DSP Workshop, Utah, No.86, 1998.
13. Romberg, J. K., Choi, H., Baraniuk, R. G., and Kingsbury, N. G., "A hiddenMarkov tree model for the complex wavelet transform", IEEE Transactions on Signal Processing, pp. 1-27, 2002.
14. Romberg, J. K., Wakin, M., Choi, H., and Baraniuk, R. G., "A geometric hidden Markov tree wavelet model," in Proc. Wavelet Applications Signal Image Processing (SPIE 5207), pp. 80-86, 2003.
15. Selesnick, I. W., Baraniuk, R. G., and Kingsbury, N. G., "The dual-tree complex wavelet transform," IEEE Signal Processing Magazine, pp. 123-151, 2005.
16. Sendur, L., and Selesnick, I. W., "Bivariate shrinkage functions for wavelet-based denoising exploiting interscale dependency," IEEE Transactions on Signal Processing, vol. 50, no. 11, pp. 2744-2756, 2002.
17. Sendur, L., and Selesnick, I. W., "Bivariate shrinkage with local variance estimation,"IEEE Signal Processing Letters, vol. 9, no. 12, pp. 438-441, 2002.
18. Zhang, F., and Liu, Z., "Image Denoising Based on the Bivariate Model of Dual Tree Complex Wavelet Transform", 11th IEEE International Conference on Computational Intelligence and Security, pp. 171-174, 2015.

289-291

59.

Authors: **Krishna Chennakesava Rao M, Mohammad Imroz Khan, Pachiyaannan.M**

Paper Title: **Circular Polarized Planar Antenna for WiMAX and WLAN Applications**

Abstract: This document presents a circular polarized planar antenna with pentagonal shaped ground slot. Wideband impedance bandwidth is achieved by etching a pentagonal shaped ground slot and inserting a 50Ω feed line into it. Two orthogonal modes of same amplitude in phase quadrature are generated by terminating the feed line by an asymmetric patch. Proposed antenna shows right handed circular polarized (RHCP) characteristics with an interference cancellation of greater than 20dB. The proposed antenna has a compact 40mm × 40mm × 1.6mm geometry with single conducting layer. Impedance bandwidth of antenna extends from 2.21 GHz – 6.42 GHz, while circular polarization bandwidth extends from 2.65 GHz – 3.18 GHz and 5.74 GHz – 6.0 GHz, thereby covering WiMAX and WLAN application bands.

Keywords: asymmetric, circular polarized, cpw

References:

1. Y.-J. Hu, W.-P. Ding, W.-M. Ni, and W.-Q. Cao, "Broadband circularly polarized cavity-backed slot antenna array with four linearly polarized disks located in a single circular slot", IEEE Antennas Wireless Propag. Lett., vol. 11, pp. 496–499, May 2012.
2. H. Ren, Y. Yu, and Z. Shen,"Broadband circularly-polarized antenna consisting of four notch slot radiators", Electron. Lett., vol. 48, no. 23, pp. 1447–1449, Nov. 2012.
3. Chang and J. Lin,"Circularly polarized antenna having two linked slot-rings", IEEE Trans. Antennas Propag., vol. 59, no. 8, pp.3057–3060, Aug. 2011.
4. C. F. Jou, J. W. Wu, and C. J. Wang,"Novel broadband monopole antennas with dual-band circular polarization", IEEE Trans. Antennas Propag., vol. 57, no. 4, pp. 1027–1034, Apr. 2009.
5. C.Lin,F.-S. Zhang and Y.-C.Jiao,"A three-fed microstrip antenna for wideband circular polarization",IEEE Antennas Wireless Propag.Lett., vol. 9, pp. 359–362, 2010.
6. Ming Tao Tan,Bing Zhong Wang,"A Dual-Band Circularly Polarized Planar Monopole Antenna for WLAN/Wi-Fi Applications",IEEE Antennas and Wireless Propagation Letters, Vol.15 pp. 670 – 673, 2016.

292-294

7. Chen Q, Zhang H, Yang L-C, Zhong T.,"A metasurface-based slit-loaded wideband circularly polarized crossed dipole antenna",Int J RF Microw Comput-Aided Eng. 2017.
8. Sim CYD, Chen HD, Zuo L, et al.,"CPW-fed sqaure ring slot antenna with circular polarization radiation for WiMAX/WLAN applications", Microw Opt Technol Lett. 2015;57:886–891.

60.	**Authors:**	**P.Krishna Chaitanya, M. Pachiyannan, Manikanta Talluri**
	Paper Title:	**Interdigital DGS Structure Penta-band High Gain Antenna for Wi-MAX/ X-band Applications: Design and Analysis**

Abstract: Miniaturized high gain single-feed multiband patch antenna approach is presented in communication systems.The multiband is obtained by introducing Defective ground structure (DGS) and etching the rectangular slots on the patch. A Single-band antenna with a frequency of 3.8 GHz is primarily, triple-band, Quad-band, and finally Penta-band proposed antennas are designed. The peak gains and efficiencies of the antenna vary from 4.26 to 6.27 dBi and 65% to 91% correspondingly. This proposed design is constructed of a modified rectangular patch antenna with interdigital DGS and two open loop resonators (parasitic elements) to serve as a coupling bridge. The measured results shows that the proposed antenna has impedance bandwidths about 130MHz (1.13-1.26GHz), 80MHz (1.66-1.75GHz), 480MHz (1.92-2.4GHz), 330MHz (3.64-3.94GHz), 560MHz (9.10-9.66GHz) which meet the requirements of wireless video links, radio applications, digital audio radio service(s-band), Wi-MAX and X-band applications.

Keywords: Interdigital DGS, open loop resonators, pentaband antenna

References:

1. Yadav, D., Abegaonkar, M. P., Koul, S. K., Tiwari, V., & Bhatnagar, D. “A compact dual band-notched UWB circular monopole antenna with parasitic resonators”. AEU - International Journal of Electronics and Communications, 84, 313–320. 2018
2. Jin-Hyun Kim, Wang-Ik Son, Wang-Sang Lee and Jong-Won Yu “.Integrated Planar Monopole Antenna with Microstrip-Ring Resonators”. (KAIST) IEEE Int. Symp. Antennas Propagation. 305-701, Korea. 2006.
3. K Fertas, H Kimouche, M Challal, H Aksas. “Design and Optimization of a CPW-Fed Tri-Band Patch Antenna Using Genetic Algorithms” in Applied Computational Electro-magnetics Society Journal-July 2015.
4. EKI Hamad, N Mahmoud. “Compact Tri-Band Notched Characteristics UWB Antenna for WiMAX, WLAN and X-Band applications” Vol. 6 No 2, 2017
5. Geetha G, Sandeep Kumar Palaniswamy, M. Gulam Nabi Alsath, Malathi Kanagasabai, T. Rama Rao, “Compact and Flexible Monopole Antenna for Ultra-Wideband Applications Deploying Fractal geometry” Journal of Electrical Engineering & Technology, Vol.13 No.1, 400-405, 2018.
6. GoharVaramini, AsgharKeshtkar, Mohammad Naser –Mogha dasi, “Miniaturization of microstrip loop antenna for wireless applications based on metamaterial metasurface”. AEU - International Journal of Electronics and Communications. Volume 83, Pages 32-39, , January 2018.
7. Mehrdad Nosrati, Negar Tavassolian. “Miniaturized Circularly Polarized Square Slot Antenna With Enhanced Axial-Ratio Bandwidth Using an Antipodal Y-strip” IEEE Antennas and Wireless Propagation Letters ,Volume 16, Pages: 817 – 820, September 2017.
8. Abdelheq Boukarkar, Xian Qi Lin , Yuan Jiang, Yi Qiang Yu, “Miniaturized Single-Feed Multiband Patch Antennas”. IEEE Transactions on Antennas and Propagation. Volume 65 , Issue: 2, 850 – 854, Feb. 2017.
9. L. H. Weng, Y.-C. Guo, X.-W. Shi, and X.-Q. Chen, “An Overview On Defected Ground Structure”. Vol. 7, pp. 173-189, 2010.
10. C. A. Balanis, “Antenna Theory: Analysis and Design”. Hoboken, NJ,USA: Wiley,p,p. 811, , 2005.
11. M. Li, X. Q. Lin, J. Y. Chin, R. Liu, and T. J. Cui, “A novel miniaturized printed planar antenna using split-ring resonator,” IEEE Antennas Wireless Propag. Lett., vol.7, pp. 629–631, 2008.
12. S. S. Yang, K.-F. Lee, A. A. Kishk, and K.M. Luk, “Design and study of wideband single feed circularly polarized microstrip antennas,” Prog. Electromagn. Res., vol. 80, pp. 45–61, Jan. 2008.
13. M. Yang, Z. N. Chen, P. Y. Lau, X. Qing, and X. Yin, “Miniaturized patch antenna with grounded strips,” IEEE Trans. Antennas Propag.,vol. 63, no. 2, pp. 843–848, Feb. 2015.
14. Ahmed Boutejdar, Mouloud Challal, Faiza Mouhouche, Kahina Djafri, SaadDosse Bennani. “Design and Fabrication of a Novel Quadruple-Band Monopole Antenna Using a U- DGS and Open-Loop-Ring Resonators” , AEM Journal, Vol 6 No 3, 2017.

295-297

61.	**Authors:**	**P.Bharghava, M.Pachiyaannan**
	Paper Title:	**Design of Rectangular Patch Antenna: Analysis with Different Feed Positions and Bandwidth Improvement**

Abstract: This letter describes that analysis of rectangular micro strip patch antenna with different feeding positions & bandwidth improvement. The design of the proposed antenna is performed with FR4-epoxy dielectric substrate material with variable thickness. It is observed that the position of feeding can be taken symmetrically by changing feeding locations. Different thickness of substrate (h=2, 3, 4, 5, 6 mm) have been taken to increase the bandwidth. The simulated results for height h=4mm have bandwidth=113MHz. The proposed rectangular micro strip antenna is at the operating frequency of 2.4GHz. The configurations proposed are simulated & analysed by Ansoft HFSS. The VSWR, gain pattern and return loss performance are used for the analysis of the configuration.

Keywords: Bandwidth, Dielectric Substrate, Rectangular patch, Return Loss

References:

1. Zachou. V, “Transmission line model design formula for Micro strip Antenna with Slots”. IEEE.2004
2. Kumar Gand Ray K.P, “Broadband Micro strip antennas”, Artech House, USA.2003
3. Balanis. C.A, “Antenna Theory-Analysis and Design”. John Wiley and Sons, New York.1997
4. Bahland P. Bhartia. I., ”Micro strip Antennas”. Artech House Inc. IN.1982
5. LorenaI. Basilio, “The Dependence of the input Impedance on Feed Position of Probe and Micro strip Line-Fed patch Antennas. IEEE Transaction on Antennas and Propagation. 49(1).” 2001
6. Prabhakar H. V. U. K, “ELECTRONICS LETTERS”.. 43 (16). 2nd August 2007
7. Constantine Balanis A, “ANTENNA THEORY ANALYSIS AND DESIGN”. 3rd Edition. John Wileyand Sons.2005
8. Ray K.P. Broadband, “Dual Frequency and Compact Micro strip Antennas”. Ph.D. Thesis. “Indian Institute of Technology, Bombay”, India. Improved U-Slot on Rectangular Patch Using Additional Loading Slots.1999
9. K Bhattacharjee. A, R Bhadra. S, Pooddarand. D.R, Chowdhury. S.K, “Equivalence of impedance and radiation properties of square and circular micro strip patch antennas”. IEE Proc.136 (Pt,H,4): 338-342.1989
10. Voughan. R.G, “Two-port higher mode circular micro strip antennas”. IEEE, Trans. Antennas Propagation. 36(3): 309-321.1988

298-301

62.	**Authors:**	**Shaik.Khamuruddeen, K.Leela Rani, K.Sowjanya, Brahmaiah Battula**
	Paper Title:	**Intelligent Pesticide Spraying System Using Quad Copter**

Abstract: Traditionally pesticides are sprayed in agriculture manually so this kind of system literally harms the

302-305

humans and lead to many serious health issues. So there should be a method to reduce this kind of backdrops. This paper concentrates on overcoming the backdrops of traditional pesticide spraying system using drones. This paper concentrates spraying the pesticide using drones. They are called rotorcrafts because it work's with a set of revolving twisted chord aerofoil's. The quadcopter is getting more excessively used due to many reasons such as Easy to build and assemble, complexity is less. Generally, in most of the cases, drones are used in Transporting objects, military, spying, educational use, rescue etc.

Keywords: Pesticide Spraying Quadcopter(PSQ),Spraying Kit(SK),Surveillance Camera(SC) ,Quad Copter(QC)

References:

1. An article on "pesticide spraying using drone" from wiki how.
2. A paper on "Agricultural drones for spraying pesticides and fertilizers" by Chavan Priyanka Shivaji, Jagtap Komal Tanaji, Nimbalkar Aishwarya Satish, Prof. P. P. Mone
3. A paper from IEEE explorer on "The use of unmanned aerial vehicles in agricultural applications".
4. A paper on "Deployment and performance of UAV for crop spraying" by Durham K. Giles*, Ryan C. Billing
5. An article on "Agricultural drone" by research gate.
6. An article on "Exploiting evolution on UAV control rules for spraying pesticides on crop fields".
7. A paper on "Arduino based automatic plant watering system" by SV Devika, Sk Khamuruddeen, Sk Khamurunnisa, Jayanth Thota, Khalesha Shaik
8. A paper on "Hold cube minimization for low power based on linear feedback shift register" by Shaik Khamuruddeen
9. A paper on "AUTOMATIC CO2 EXTINGUISHER FIRE FIGHTING DRONE" by Dr.SK.Khamuruddeen Ethara Bala Vyshnavi, Amareswari Ambati, Gorantla Chamundeswari, Garre Vineetha

63.

Authors:	**Sekhar M, P Krishna Chaitanya**
Paper Title:	**1×4 Antenna Array with Corporate Feed for L-Band RADAR**

Abstract: A four element 1×4 antenna array with corporate feed structure has been designed and investigated in this paper. Coax feed has been used to power the corporate feed structure. Proposed antenna radiates at the L-band frequency of 1.35GHz which is widely used for the RADAR applications.
For the design of corporate feed equal split Wilkinson power divider concepts are been used. FR4 material is been used as base to the antenna which is having a thickness of 62mils. Proposed antenna is having a gain of 6.99dB. From the return loss and smith chart plots we can observed the impedance matching characteristics of the antenna array. A beam width of 250 is obtained with a SLL of 14dB which is best acceptable for array applications.
Keywords: Antenna Array, X-Band, Coax feed, Mutual Coupling.

References:

1. Sekhar M, Siddaiah P "Triple Frequency Circular Patch Antenna" 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
2. E. Kusuma Kumari, A.N.V.Ravi Kumar "Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
3. E. Kusuma Kumari, A.N.V.Ravi Kumar "Development of an L Band Beam Steering Cuboid Antenna Array" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
4. Sunkaraboina Sreenu, Vadde Seetharama Rao, "Stacked Microstrip Antenna For Global Positioning System" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
5. Rao N.A., Kanapala S., " Wideband Circular Polarized Binomial Antenna Array for L-Band Radar". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
6. Kanapala S., Rao N.A., "Beam Steering Cuboid Antenna Array for L Band RADAR". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore.
7. SekharM ,Siddaiah P "Performance of Feed on Dual Frequency Antenna in Ka-Band" International Journal Of Innovative Research In Electrical, Electronics, Instrumentation And Control Engineering (IJIREEICE), Vol. 2, Issue 5, May 2014. ISSN (Online) 2321 – 2004.
8. SekharM ,Siddaiah P "Comparison of Dual Frequency Antenna in Ka-Band with and without Shorting pin (IJMCTR), ISSN: 2321-0850, Volume-2, Issue-8, August 2014.
9. Chaturvedi T , Siddaiah P "UWB ANTENNA FOR KA-BAND"Global Journal of Advanced Engineering Technologies Volume 4, Issue 1-2015.ISSN (Online): 2277-6370.
10. Chaturvedi T , Siddaiah P "Quad Band Triangular Ring Slot Antenna" International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015 1637, ISSN 2229-5518.

64.

Authors:	**Anil Kumar Karra, Sekhar M, Arsavelli Janardhana**
Paper Title:	**Design of a Novel Wide Stopband Common Mode Filter with Slotted Ground**

Abstract: Design of filters for higher frequency ranges often face the limitation of stop band offset which is also a major problem in common mode filters design. Bandwidth enhancement of the stop band offset is the only solution to overcome the issue, in this paper a simple technique has been proposed to enhance stop band bandwidth in common mode filters. Ground slot technique is proposed to expand the bandwidth of stop band. The characteristics of the filter are analyzed by considering a filter model with three conductors. Proposed filter has a stop band bandwidth of 3.3 GHz with an all pass bandwidth of DC to 40GHz. The simulation results of the proposed design verify the performance of the filter. With the proposed ground slot technique the stop band bandwidth of the common mode filter has been increased by fifty percentage without any other problems.

Keywords: common mode filter, ground slot, stopband offset;

References:

1. W. T. Liu, C. H. Tsai, T. W. Han, and T. L. Wu, "An embedded commonmode suppression filter for GHz differential signals using periodic defected ground plane," IEEE Microw. Wireless Compon. Lett., vol. 18, no. 4, pp. 248–250, Apr. 2008.
2. K. Yanagisawa, F. Zhang, T. Sato, K. Yanagisawa, and Y. Miura, "A new wideband common-mode noise filter consisting of Mn-Zn ferrite core and copper/polyimide tape wound coil," IEEE Trans. Magn., vol. 41, no. 10, pp. 3571–3573, Oct. 2005.
3. S. Saito, T. Kobayashi, and S. Nitta, "High speed signal transmission compatibility with noise suppression by common mode chokes," in Proc.

10th Int. EMC Eur. Symp., York, U.K., Sep. 2011, pp. 26–30.
4. B. C. Tseng and L. K. Wu, "Design of miniaturized common-mode filter by multilayer low-temperature co-fired ceramic," IEEE Trans. Electromagn. Compat., vol. 46, no. 4, pp. 571–579, Nov. 2004.
5. Y. F. Shu, X. C. Wei, X. Q. Yu, Y. S. Li, and E. P. Li, "A compact meander line-resonator hybrid structure for wideband common-mode suppression," IEEE Trans. Electromagn. Compat., vol. 57, no. 5, pp. 1255–1261, Oct. 2015.
6. S. J. Wu, H. H. Chuang, T. K. Wang, and T. L. Wu, "A novel HU-shaped common-mode filter for GHz differential signals," in Proc. IEEE Int.Symp. Electromagn. Compat., 2008, pp. 1–4.
7. S. J. Wu, C. H. Tsal, T. L. Wu, and T. Itoh, "A novel wideband common mode suppression filter for gigahertz differential signals using coupled patterned ground structure," IEEE Trans. Microw. Theory Techn., vol. 57,no. 4, pp. 848–855, Apr. 2009.
8. T. W. Weng, C. H. Tsai, C. H. Chen, D. H. Han, and T. L. Wu, "Synthesis model and design of a common-mode bandstop filter (CM-BSF) with anall-pass characteristic for high-speed differential signals," IEEE Trans. Microw. Theory Techn. vol. 62, no. 8, pp. 1647–1656, Aug. 2014.
9. F. de Paulis, L. Raimondo, S. Connor, B. Archambeault, and A. Orlandi,"Compact configuration for common mode filter design based on planarelectromagnetic bandgap structures," IEEE Trans. Electromagn. Compat., vol. 54, no. 3, pp. 646–654, Jun. 2012.
10. F. de Paulis et al., "EBG-based common-mode microstrip and stripline filters: Experimental investigation of performances and crosstalk," IEEE Trans. Electromagn. Compat., vol. 57, no. 3, pp. 996–1004, Oct. 2015.
11. Q. Liu, S. Xu, and D. Pommerenke, "PCB structures for common mode suppression on differential microstrip lines," in Proc. IEEE Int. Symp.Electromagn. Compat., 2014, pp. 533–537.

65.

Authors: **Sarada Musala, Gonuguntla Sailakshmi**

Paper Title: **Finfet based two stage dynamic comparators for low power high speed adcs**

Abstract: This paper proposes two stage dynamic comparators. These are designed for high speed low power ADC's. Comparator is a device which compares the two input signals and provides differential outputs. It is used in the devices which measure and digitize the analog signals i.e., ADCs, Zero crossing detectors, relaxation oscillators and level shifters. These are used in front end designs of biomedical, digital imaging, communication and digital signal processing applications. In the proposed designs, dynamic latch circuit is used to reduce the area and delay because dynamic logic circuits require less area with high speed than the static designs. Depending on the clock signal, the dynamic latch is evaluated in pre-charge and evaluation phases. The proposed designs have been simulated in Cadence using 180 nm CMOS and 18 nm FINFET technologies. These designs offer low power with high speed and better PDP.

Index Terms Dynamic comparator, ADC, dynamic latch, CMOS technology, FINFET technology, PDP.

References:

1. Tzu-Yun Wang, Hao-Yu Li, Zong-Yu Ma, Yang-Jing Huang and Sheng-Yu Peng, "A bypass - switching SAR ADC with a dynamic proximity comparator for biomedical applications," IEEE Journal of Solid-State Circuits, Jun. 2018, Vol. 53, no. 6, pp. 1743 – 1754.
2. M. V. Elzakker, E. V. Tujil, P. Geraedts, D. Schinkel, E. A. M. Klumerink and B. Nauta, " A 10- bit charge- redistribution ADC consuming 1.9 µW at MS/s," IEEE Journal of Solid-State Circuits, May 2010, Vol. 45, no. 5, pp. 1007-1015.
3. P. Harpe, E. Cantatore and A. Van Roermund, "A 10b/12b 40KS/s SAR ADC with data-driven noise reduction achieving up to 0.1b ENOB at 2.2 fJ/conversion step," IEEE Journal of Solid-State Circuits, Dec. 2013, Vol. 48, no. 12, pp. 3011-3018.
4. F. M. Yaul and A. P. Chandrakasan," A 10 bit SAR ADC with data dependent energy reduction using LSB-first successive approximation," IEEE Journal of Solid-State Circuits, Dec. 2014, Vol. 49, no.12, pp. 2825-2834.
5. H. Tang, Z. C. Sun, K. W. R. Chew, and L. Siek," A 1.33 µW 8.02 ENOB 100 Ks/s successive approximation ADC with supply reduction technique for implantable retinal prosthesis," IEEE Transactions Biomedical Circuits Systems, Dec. 2014, Vol. 8, no. 6, pp. 844-856.
6. G. Y. Huang, S. J. Chang, C. C. Liu, and Y. Z. Lin, "A 1-µW 10-bit 200-kS/s SAR ADC with a bypass window for biomedical applications," IEEE Journal of Solid–State Circuits, Nov. 2012, Vol. 47, no. 11, pp. 2783–2795.
7. M. Yip and A. P. Chandrakasan, "A resolution-reconfigurable 5-to-10-bit 0.4-to-1 V power scalable SAR ADC for sensor applications", IEEE Journal of Solid-State Circuits, Jun. 2013, Vol. 48, no. 6, pp. 1453–1464.
8. Z. Zhu and Y. Liang, "A 0.6-V 38-nW 9.4-ENOB 20-kS/s SAR ADC in 0.18-µm CMOS for medical implant devices", IEEE Transactions of Circuits Systems I, Fundamental Theory Applications, Sep. 2015, Vol. 62, no. 9, pp. 2167–2176.
9. Y. Tao and Y. Lian, "A 0.8-V, 1-MS/s, 10-bit SAR ADC for multichannel neural recording," IEEE Transactions of Circuits Systems I, Regular Papers, Feb. 2015, Vol. 62, no. 2, pp. 366–375.
10. D. Zhang, A. Bhide, and A. Alvandpour, "A 53-nW 9.1-ENOB 1-kS/s SAR ADC in 0.13-µm CMOS for medical implant devices," IEEE Journal of Solid–State Circuits, Jul. 2012, Vol. 47, no. 7, pp. 1585–1593.
11. D. Gangopadhyay, E. G. Allstot, A. M. R. Dixon, K. Natarajan, S. Gupta, and D. J. Allstot, "Compressed sensing analog front-end for bio-sensor applications," IEEE Journal of Solid-State Circuits, Feb. 2014, Vol. 49, no. 2, pp. 426–438.
12. H. Lee, S. Park, C. Lim, and C. Kim, "A 100-nW 9.1-ENOB 20-kS/s SAR ADC for Portable Pulse Oximeter," IEEE Trans. Circuits Syst. II, Exp. Briefs, Apr. 2015, Vol. 62, no. 4, pp. 357–361.
13. C. C. Liu, S. J. Chang, G. Y. Huang, and Y. Z. Lin, "A 10-bit 50-MS/s SAR ADC with a monotonic capacitor switching procedure," IEEE J. Solid-State Circuits, Apr. 2010, Vol. 45, no. 4, pp. 731–740.
14. H. Y. Tai, Y. S. Hu, H. W. Chen, and H. S. Chen, "A 0.85 fJ/conversion step 10b 200 kS/s sub-ranging SAR ADC in 40 nm CMOS," in Proc. IEEE Int. Solid-State Circuits Conf., Feb. 2014, pp. 196–198.
15. S. Liu, Y. Shen, and Z. Zhu, "A 12-bit 10 MS/s SAR ADC with high linearity and energy-efficient switching," IEEE Trans. Circuits Syst. I, Reg. Papers, Oct. 2016, Vol. 63, no. 10, pp. 1616–1627.
16. Y. Song, Z. Xue, Y. Xie, L. Geng, and S. Fan, "A 0.6-V 10-bit 200-kS/s fully differential SAR ADC with incremental converting algorithm for energy efficient applications," IEEE Trans. Circuits Syst. I, Reg. Papers, Apr. 2016, Vol. 63, no. 4, pp. 449–458.
17. A. Shikata, R. Sekimoto, T. Kuroda, and H. Ishikuro, "A 0.5 V 1.1 MS/sec 6.3 fJ/conversion-step SAR-ADC with tri-level comparator in 40 nm CMOS," IEEE J. Solid-State Circuits, Apr. 2012, Vol. 47, no. 4, pp. 1022–1030.
18. Z. Zhu, Z. Qiu, M. Liu, and R. Ding, "A 6 to 10-Bit 0.5 V to 0.9 V reconfigurable 2 MS/s power scalable SAR ADC in 0.18 µm CMOS," IEEE Trans. Circuits Syst. I, Fundam. Theory Appl., Mar. 2015, Vol. 62, no. 3, pp. 689–696.

313-316

66.

Authors: **Sekhar M, Mohan Kumar D**

Paper Title: **Circular Polarized Ring Slot Antenna with Filtering Characteristics**

Abstract: A simple ring slot antenna with a in built filter to reduce the higher order modes is proposed in this model. The proposed antenna is having circular polarization at the operating frequency of 8.6GHz. In general antenna will be having higher order modes of operation and to nullify it we will be having filters in the transceiver circuits but it will increase the mutual interference levels in the system and also the complexity of the system which will lead to reduction of the life span of the device and also effect the efficiency. So to make the system simple a antenna with inbuilt filter is proposed which will not receive the signals from the higher order modes and there will be no necessity for the additional filter circuits.

Keywords: Strip Feed, Filter, Higher order modes.

317-320

References:
1. M.A.Motin et. al. "Design and simulation of a low cost three band microstrip patch antenna for the X-band, Ku-band and K- band applications" 2012 7th International Conference on Electrical and Computer Engineering, 20-22 Dec, Dhaka, Bangladesh.
2. Mustafa Pehlivan ; Yavuz Asci ; Korkut Yegin ; Caner Ozdemir, "Xband patch array antenna design for marine radar application" 22nd International Microwave and Radar Conference, 14-17 May 2018, Poznan, Poland.
3. Angeline M. Flashy ; A. Vijaya Shanthi,"Microstrip circular antenna array design for radar applications", International Conference on Information Communication and Embedded Systems , 27-28 Feb. 2014, Chennai, India.
4. S. Feng ; M.P. Jin, "Broad-band cavity-backed and probe-fed microstrip phased array antenna in X-band" IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting, 9-14 July 2017, San Diego, CA, USA.
5. Sekhar M, Siddaiah P "Triple Frequency Circular Patch Antenna" 2014 IEEE International Conference on Computational Intelligence And Computing Research, Park College Of Engineering And Tekhnology, ISBN: 978-1-4799-1594-1.
6. E. Kusuma Kumari, A.N.V.Ravi Kumar "Wideband High-Gain Circularly Polarized Planar Antenna Array for L Band Radar" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
7. E. Kusuma Kumari, A.N.V.Ravi Kumar "Development of an L Band Beam Steering Cuboid Antenna Array" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
8. Sunkaraboina Sreenu, Vadde Seetharama Rao, "Stacked Microstrip Antenna For Global Positioning System" 2017 IEEE International Conference on Computational Intelligence And Computing Research, Tamilnadu College of Engineering, ISBN: 978-1-5090-6620-9.
9. Rao N.A., Kanapala S., " Wideband Circular Polarized Binomial Antenna Array for L-Band Radar". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore
10. Kanapala S., Rao N.A., "Beam Steering Cuboid Antenna Array for L Band RADAR". In: Panda G., Satapathy S., Biswal B., Bansal R. (eds) Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering, vol 521. Springer, Singapore

67.	**Authors:**	**Ambavaram Pratap Reddy, M.Pachiyannan**
	Paper Title:	**Multiband Dielectric Resonator Antenna for Bluetooth/Radio Altimeter Applications: Design and Analysis**

Abstract: In this research letter report that the multiband Dielectric Resonator Antenna (DRA) for Bluetooth/Radio Altimeter Applications. The DRA is built by the bunch of ceramic material with loss tangent value of 0.5 and dielectric constant of 30 is utilized in this work. By applying strip line the proposed result has been achieved with variable dimensions. The overall dimensions of proposed antenna are 40x30x1.2mm and DRA size is 10x12x2mm size. The proposed antenna exhibit 2.4 GHz and 4.4GHz with narrow bandwidth which is satisfy VSWR<2 also the simulation result show that moderate gain , efficiency and good impedance matching. Based on the design factor the proposed work is suitable for mobile network applications also LTE applications.

Keywords: Bluetooth/Radio, Altimeter, DRA, LTE, Multiband.

References:
1. IEEE Antennas Wireless Propag "A Compact Printed Antenna for Triple-Band WLAN/WiMAX Applications,". Y. Han, and C. Liang,H. Zhai, Z. Ma, Lett., vol.12, pp. 65-68, 2013.
2. "A Dual Band Back Coupled Meander line Antenna for Wireless LAN Applications,"Vehicular Technology Conference, A. Khaleghi, A. Azoulay, and J. C. Bolomey, "vol. 1, pp. 226-229, 2005.
3. IEEE Antennas Wireless Propa. Lett. "Novel CPW-fed planar monopole antenna for WiMAX/WLAN applications," H. W. Lui, C.H. Ku, and C. F. Yang, vol 9, pp. 240-242, 2010.
4. "Broadband Dielectric Resonator Antenna (DRA) Design for Mobile Wireless Applications Fauzi Elmegri", Chan H See, Raed A Abd-Alhameed, Issa T E Elfergani, Loughborough, UK,14-15 November 2011.
5. LTE-V: "A TD-LTE-Based V2X Solution for Future Vehicular Network Shanzhi Chen, Senior Member," IEEE, Jinling Hu, Yan Shi, and Li Zhao
6. "A. Petosa, "Dielectric Resonator Antenna", (by Artech House Publishers Artech House Antennas and Propagation Library) 2007. Author Publications xvii. List of Figures xix ..... being available for loan, photocopying, and dissemination through the library digital ..... published in IEEE Antennas Wireless Propagation
7. IEEE magazine on Antennas and Propag,A. Petosa, and A. Ittipiboon, "Dielectric resonator antennas—A historical review and the current state of the art," vol-52, no. 5, pp. 91-116, Oct. 2010.
8. IEEE Antennas Wireless Propagat. Lett., "Theory and experiment of the hollow rectangular dielectric resonator antenna," K. Lu, K. W. Leung, and Y. M. vol.10, pp. 631-634, 2011.
9. "Resonator Antennas. Hertfordshire, U.K.:Research Studies Press Ltd., 2002".K. M. Luk and K. W. Leung, Dielectric "Published in: IEEE Antennas and Propagation Magazine (Volume: 52 , Issue: 5 , Oct. 2010)
10. IEEE International conference on "Novel hexagon shaped dielectric resonator antenna array for wideband applications, Microwave, Antenna, Propagation and EMC Technologies for Wireless Communications" Lai Qifeng , Ma Xiaoping; Zhang Xiangjun;;, ", 2009 3 rd, vol., no., pp.639-642, 27-29 Oct. 2009.

321-323

68.	**Authors:**	**Patri Upender, P. Nageswara Rao, K. R. Anudeep Laxmikanth**
	Paper Title:	**Design of Equangular Spiral Helix antenna**

Abstract: This paper presents the design of Equiangular Spiral Helix Antenna in the frequency range from 0.5-18 GHz where the helical antenna is operating over the frequency range of 0.5-2GHz and spiral antenna over the range of 2-18GHz to achieve circularly polarized radiation for the same frequency band. This Antenna gives frequency range with unrealizable during a one device. VSWR, beam width, gain is determined over the entire band of 0.5-18 GHz. Designing this antenna is critical due to compact size and broadband characteristics.

Keywords: Helix Antenna, polarization, VSWR, beam width, gain, Spiral

References:
1. H.Nakano,Y.okabe,H Mimaki and J.Yamauchi, "A spiral antenna excited through a helical wire", IEEE Tans Antenna Propag 51, 2003, pp. 661-664.
2. J.D.kraus and R.J.Marhefka, Antennas for all applications,McGrawHill,Newyork,2002.
3. H.Nakano, "Helical and spiral antennas: A numerical Approach", Research Studies 4.Press,letchworth,1987. Kraus, J.D., (W8JK), "A Helical-Beam Antenna without a Ground Plane" IEEE Antennas and Propagation Magazine April 1995.
4. D.E.Warren,"Full Core Loaded Sheath Helical Antenna" M.S.Thesis, Department of Electrical and Computer Engineering, Syracuse University,NY,1969
5. J. A. Kaiser, "The Archimedean Two-Wire Spiral Antenna" IRE Transactions on Antennas and Propagation, Vol.AP-8 PP.312-323, 1960.

324-327

6. M. Buck and D. Filipovic, “Spiral Cavity Backing Effects on Pattern Symmetry and Modal Contamination,” IEEE Ant. Wirel. Propagat. Let., vol. 5 (2006): 243–246.
7. M.N. Afsar, Y. Wang and R. Cheung, “Analysis and Measurement of a Broadband Spiral Antenna,” IEEE Antennas and Propagation Magazine”, Vol. 46, No. 1, February 2004, pp. 59-64.
8. H. Nakano, H. Takeda, T. Honma, H. Mimaki, and J. Yamauch, "Extremely Low- Profile Helix Radiating a Circularly Polarized Wave," IEEE Trans Antennas Propagat., Vol.39, No.6, pp.754-757. June 1991.
9. W.L. Stutzman and G.A. Thiele, “Antenna Theory and Design”, John Wiley & Sons: NewYork, 1981.
10. Y.A.Ho and Edward K.N.Yung, "Characteristics of a helical antenna with a dielectric resonator core", Asia-Pacific Microwave Conference Proceedings, v01.2, pp.600-603,Oct. 1995

69.

Authors: S Aruna, K. Sravan, K.Srinivasa Naik

Paper Title: Design of 9-T QSTCAM using LECTOR Low Power Technique in 45nm CMOS Technology

Abstract: Hardware search engine constitutes of an important role to enhance the speed of the process towards search of the high speed appliances. TCAM is that sort of a hardware which completes the search cycle in a single clock and it uses different mask storage and content storage. A 128*32 bit TCAM is implemented with selective match line evaluation scheme in predictive 45nm CMOS process and in this paper a TCAM is designed using LECTOR low power technique.

Keywords: TCAM, LECTOR, 45nm CMOS process

References:

1. Sandeep Mishra, Member, IEEE, Telajala Venkata Mahendra, and Anup Dandapat, Senior Member, IEEE “A 9-T 833-MHz 1.72-fJ/Bit/Search Quasi- Static Ternary Fully Associative Cache Tag With Selective Matchline Evaluation for Wire Speed Applications”
2. Y. D. Kim, H. S. Ahn, S. Kim, and D. K. Jeong, “A high-speed range matching TCAM for storage-efficient packet classification,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 56, no. 6, pp. 1221–1230, Jun. 2009.
3. I.Arsovski, T.Hebig, D.Dobson, and R. Wistort, “A 32 nm 0.58-fJ/bit/search 1-GHz ternary content addressable memory compiler using siliconaware early-predict late-correct sensing with embedded deep-trench capacitor noise mitigation,” IEEE J. Solid-State Circuits, vol. 48, no. 4, pp. 932–939, Apr. 2013.
4. P.-T. Huang and W.Hwang, “A 65 nm 0.165 fJ/bit/search 256 × 144 TCAM macro design for IPv6 lookup tables,” IEEEJ. Solid-State Circuits, vol. 46, no. 2, pp. 507–519, Feb. 2011.
5. S.K.Maurya and L.T.Clark, “A dynamic longest prefix matching content addressable memory for IP routing,” IEEE Trans. Very Large Scale Integer.(VLSI) Syst., vol. 19, no. 6, pp. 963–972, Jun. 2011.
6. I.Arsovski, T.Chandler, and A.Sheikholeslami, “A ternary content addressable memory (TCAM) based on 4T static storage and including a current-race sensing scheme,” IEEE J.Solid-State Circuits, vol. 38, no. 1, pp. 155–158, Jan. 2003.
7. H.Che, Z.Wang, and K.Zheng, “DRES: Dynamic range encoding scheme for TCAM coprocessors,” IEEE Trans. Comput., vol. 57, no. 7,pp. 902–915, Jul. 2008.
8. P.Maffezzoni, B.Bahr, Z.Zhang, and L. Daniel, “Oscillator array models for associative memory and pattern recognition,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 62, no. 6, pp. 1591–1598, Jun. 2015.
9. Y.Sun and M.S.Kim, “A hybrid approach to CAM-based longest prefix matching for IP route lookup,” in Proc. IEEE GLOBECOM, 2010,pp. 1–5.
10. L.Kosmidis, J.Abella, E.Quiñones, and F. J. Cazorla, “Efficient cache designs for probabilistically analysable real-time systems,” IEEE Trans. Comput., vol. 63, no. 12, pp. 2998–3011, Dec. 2014.
11. I.Hayashi, T.Amano, N.Watanabe, Y.Yano, Y.Kuroda, M.Shirata, K.Dosaka,K.Nii, H. Noda, and H.Kawai, “A 250-MHz 18-Mb full ternary CAM with low-voltage match line sensing scheme in 65-nm CMOS,” IEEE J. Solid-State Circuits, vol. 48, no. 11, pp. 2671–2680, Nov. 2013.
12. C.Wang, C.Hsu, C.Huang, and J.Wu, “A self-disabled sensing technique for content-addressable memories,” IEEE Trans. Circuits Syst. II, Express Briefs, vol. 57, no. 1, pp. 31–35, Jan. 2010.
13. V.Lines, A.Ahmed, P.Ma, and S.Ma, “66 MHz 2.3 M ternary dynamic content addressable memory,” in Proc. Record IEEE Int. Workshop Memory Technol., Design Testing, 2000, pp. 101–105.
14. Y.H.Gong and S.Chung, “Exploiting refresh effect of DRAM read operations: A practical approach to low-power refresh,” IEEE Trans. Comput., vol. 65, no. 5, pp. 1507–1517, May 2016.
15. M.Chae, J.W.Lee, and S.HHong, “Decoupled 4T dynamic CAM suitable for high density storage,” Electron. Lett., vol. 47, no. 7, pp. 434–436, Mar. 2011.
16. V.Vinogradov, J.Ha, C.Lee, A.Molnar, and S.H.Hong, “Dynamic ternary CAM for hardware search engine,” Electron. Lett., vol. 50, no. 4, pp. 256–258, Feb. 2014.
17. K.L.Tsai, Y.J.Chang, and Y.C.Cheng, “Automatic charge balancing content addressable memory with self-control mechanism,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 61, no. 10, pp. 2834–2841, Oct. 2014.
18. N.Onizawa, S.Matsunaga, V.C.Gaudet, W. J.Gross, and T.Hanyu, “High-throughput low-energy self-timed CAM based on reordered overlapped search mechanism,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 61, no. 3, pp. 865–876, Mar. 2014.
19. S.H.Yang, Y.J.Huang, and J.F.Li, “A low-power ternary content addressable memory with pai-sigma matchlines,” IEEE Trans. Very Large Scale Integer. (VLSI) Syst., vol. 20, no. 10, pp. 1909–1913, Oct. 2012.
20. N.Mohan, W.Fung, D.Wright, and M. Sachdev, “A low-power ternary CAM with positive-feedback match-line sense amplifiers,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 56, no. 3, pp. 566–573, Mar. 2009.
21. J.W.Zhang, Y.Z.Ye, and B.D.Liu, “A current-recycling technique for shadow-match-line sensing in content-addressable memories,” IEEE Trans. Very Large Scale Integr. (VLSI) Syst., vol. 16, no. 6, pp. 677–682, Jun. 2008.
22. B.D.Yang, Y.K.Lee, S.W.Sung, J.J.Min, J. M.Oh, and H.J. Kang, “A low-power content addressable memory using low swing search lines,” IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 58, no. 12, pp. 2849–2858, Dec. 2011.
23. A.Agarwal, S.Hsu, S.Mathew, M.Anders, H.Kaul, F.Sheikh, and R.Krishnamurthy, “A 128 × 128b high-speed wide-AND match-line content addressable memory in 32 nm CMOS,” in Proc. 2011 ESSCIRC, 2011, pp. 83–86.
24. C.C.Wang, J.S.Wang, and C.Yeh, “High-speed and low-power design techniques for TCAM macros,” IEEE J.Solid-State Circuits, vol. 43, no. 2, pp. 530–540, Feb. 2008.
25. A.T.Do, S.Chen, Z.H.Kong, and K.S.Yeo, “A high speed low-power CAM with a parity bit and power-gated ML sensing,” IEEE Trans. Very Large Scale Integer. (VLSI) Syst., vol. 21, no. 1, pp. 151–156, Jul. 2013.

328-334

70.

Authors: S Aruna, M. Dheeraj, K. Srinivasa Naik

Paper Title: Varying Accuracy Configurable Multipliers integrated by utilizing Quality 4:2 Compressors

Abstract: In this paper, few 4:2 compressors which are having the flexibility to switch between two operating modes namely exact and approximate based on the requirement of the application, along with an exact compressor that has greater characteristics that the conventional compressor are put-forward. The approx. approach enables these twin-quality compressors to deliver high-speeds with low power consumption at the cost of reduced accuracy which enables them to be used in various solicitations of their importance. Each of these compressors has their own levels of accuracy with different delay, power dissipation and areal consumption values in the approximate mode as well as in the exact

335-344

mode too. Usage of these configured compressors in the structure of the multipliers helps in further optimizing the properties of designing of multipliers. The efficiencies of these 4:2 compressors are evaluated in 8-bit Dadda multiplier in the 45nm standard CMOS technology by relating their parameters with those of the up-to-the-minute approximate Multipliers. Using a calling circuitry 16 & 32 (bit) dadda multipliers are also evaluated incorporating them with the proposed compressors. This comparative evaluation results indicate reduced delay and lowered power consumption at the cost of reduced accuracy in the inexact mode of the twin eminence compressors, whereas the EXACT compressor that has been designed showcases lowered power, improved speed and reduced area on silicon with precise accuracy in the results. Also, the effectiveness of the EXACT compressor is used to optimize a MAC unit which is used vastly for many solicitations.

Index Terms: Approximate operating mode-computing, 4:2Compressor, Accuracy, configuring, Delay(lag), Power.

References:

1. P. Kulkarni, P. Gupta, and M. Ercegovac, "Trading accuracy for power with an underdesigned multiplier architecture," in Proc. 24th Int. Conf. VLSI Design, Jan. 2011, pp. 346–351.
2. D. Baran, M. Aktan, and V. G. Oklobdzija, "Multiplier structures for low power applications in deep-CMOS," in Proc. IEEE Int. Symp. Circuits Syst. (ISCAS), May 2011, pp. 1061–1064.
3. S. Ghosh, D. Mohapatra, G. Karakonstantis, and K. Roy, "Voltage scalable high-speed robust hybrid arithmetic units using adaptive clock-ing," IEEE Trans. Very Large Scale Integr. (VLSI) Syst., vol. 18, no. 9, PP1301–1309, Sep. 2010.
4. O. Akbari, M. Kamal, A. Afzali-Kusha, and M. Pedram, "RAP-CLA: A reconfigurable approximate carry look-ahead adder," IEEE Trans. Circuits Syst. II, Express Briefs, doi: 10.1109/TCSII.2016.2633307.
5. A. Sampson et al., "EnerJ: Approximate data types for safe and general low-power computation," in Proc. 32nd ACM SIGPLAN Conf. Program. Lang. Design Implement. (PLDI), 2011, pp. 164–174.
6. A. Raha, H. Jayakumar, and V. Raghunathan, "Input-based dynamic reconfiguration of approximate arithmetic units for video encoding," IEEE Trans. Very Large Scale Integr. (VLSI) Syst., vol. 24, no. 3, pp. 846–857, May 2015.
7. J. Joven et al., "QoS-driven reconfigurable parallel computing for NoC-based clustered MPSoCs," IEEE Trans. Ind. Informat., vol. 9, no. 3, pp. 1613–1624, Aug. 2013.
8. R. Ye, T. Wang, F. Yuan, R. Kumar, and Q. Xu, "On reconfiguration-oriented approximate adder design and its application," in Proc. IEEE/ACM Int. Conf. Comput. Aided Design (ICCAD), Nov. 2013, pp. 48–54.
9. M. Shafique, W. Ahmad, R. Hafiz, and J. Henkel, "A low latency generic accuracy configurable adder," in Proc. 52nd ACM/EDAC/IEEE Design Autom. Conf. (DAC), Jun. 2015, pp. 1–6.
10. S. Narayanamoorthy, H. A. Moghaddam, Z. Liu, T. Park, and N. S. Kim, "Energy-efficient approximate multiplication for digital signal process-ing and classification applications," IEEE Trans. Very Large Scale Integr. (VLSI) Syst., vol. 23, no. 6, pp. 1180–1184, Jun. 2015.
11. S. Hashemi, R. I. Bahar, and S. Reda, "DRUM: A dynamic range unbi-ased multiplier for approximate applications," in Proc. IEEE/ACM Int. Conf. Comput.-Aided Design (ICCAD), Austin, TX, USA, Nov. 2015, pp. 418–425.
12. K. Y. Kyaw, W. L. Goh, and K. S. Yeo, "Low-power high-speed mul-tiplier for error-tolerant application," in Proc. IEEE Int. Conf. Electron Devices Solid-State Circuits (EDSSC), Dec. 2010, pp. 1–4.
13. H. R. Mahdiani, A. Ahmadi, S. M. Fakhraie, and C. Lucas, "Bio-inspired imprecise computational blocks for efficient VLSI implementation of soft-computing applications," IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 57, no. 4, pp. 850–862, Apr. 2010.
14. A. Momeni, J. Han, P. Montuschi, and F. Lombardi, "Design and analysis of approximate compressors for multiplication," IEEE Trans. Comput., vol. 64, no. 4, pp. 984–994, Apr. 2015.
15. C. H. Lin and I. C. Lin, "High accuracy approximate multiplier with error correction," in Proc. IEEE 31st Int. Conf. Comput. Design (ICCD), Oct. 2013, pp. 33–38.
16. C. Liu, J. Han, and F. Lombardi, "A low-power, high-performance approximate multiplier with configurable partial error recovery," in Proc. Conf. Design, Autom. Test Eur. (DATE), 2014, Art. no. 95.
17. R. Zendegani, M. Kamal, M. Bahadori, A. Afzali-Kusha, and M. Pedram, "RoBA multiplier: A rounding-based approximate mul-tiplier for high-speed yet energy-efficient digital signal process-ing," IEEE Trans. Very Large Scale Integr. (VLSI) Syst., doi: 10.1109/TVLSI.2016.2587696.
18. C. H. Chang, J. Gu, and M. Zhang, "Ultra low-voltage low- power CMOS 4-2 and 5-2 compressors for fast arithmetic circuits," IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 51, no. 10, pp. 1985–1997, Oct. 2004.
19. D. Baran, M. Aktan, and V. G. Oklobdzija, "Energy efficient imple-mentation of parallel CMOS multipliers with improved compressors," in Proc. ACM/IEEE Int. Symp. Low-Power Electron. Design (ISLPED), Aug. 2010, pp. 147–152.
20. J. Liang, J. Han, and F. Lombardi, "New metrics for the reliability of approximate and probabilistic adders," IEEE Trans. Comput., vol. 62, no. 9, pp. 1760–1771, Sep. 2013.
21. (2016). NanGate—The Standard Cell Library Optimization Company. [Online]. Available: http://www.nangate.com/
22. M. S. K. Lau, K. V. Ling, and Y. C. Chu, "Energy-aware probabilistic multiplier: Design and analysis," in Proc. Int. Conf. Compil., Archit., Synth. Embedded Syst., 2009, pp. 281–290.
23. New approximate multiplier for low power digital signal processing, by Farzad Farshchi, Sied Mehdi Fakhrale, https://www.researchgate.net/conference-event/CADS_International-Symposium-on-Computer-Architecture-Digital-Systems_2013/4520A
24. Design Technique for Faster Dadda Multiplier, B. Ramkumar, V. Sreedeep and Harish M Kittur, Member, IEEE.
25. Z. Wang, A. C. Bovik, H. R. Sheikh, and E. P. Simoncelli, "Image quality assessment: From error visibility to structural similarity," IEEE Trans. Image Process., vol. 13, no. 4, pp. 600–612, Apr. 2004.
26. Trace.eas.asu.edu. (2016). YUV Sequences. [Online]. Available: http://trace.eas.asu.edu/yuv/
27. A Proposed Wallace Tree Multiplier Using Full Adder and Half Adder, International Journal of Innovative Research in Electrical, electronics, instrumentation and control Engineering, Vol. 4, Issue 5, May 2016, Swathi AC, Yuvaraj.T
28. Dual-Quality 4:2 Compressors for Utilizing in Dynamic Accuracy Configurable Multipliers Omid Akbari, Mehdi Kamal, Ali Afzali-Kusha, and Massoud Pedram, IEEE transactions on very large scale integration (vlsi) systems, vol. 25, no. 4, April 2017.
29. Design and performance analysis of Multiply-Accumulate (MAC) unit, 2014 International Conference on Circuits, Power and Computing Technologies [ICCPCT-2014], IEEE explorer, 05 March 2015
30. Multiplier-Accumulator (MAC) Unit, International Journal of Digital Application & Contemporary Research Website: www.ijdacr.com (Volume 5, Issue 3, October 2016).
31. Design and Implementation of High Performance 4-bit Dadda Multiplier using Compressor Rathisha Shetty, Mr. Mahesh,B.Neelagar.

71.	**Authors:**	**S Aruna, S Venkatesh, K.Srinivasa Naik**
	Paper Title:	**A Low Power and High Speed Array Multiplier Using On-The-Fly Conversion**

Abstract: A low power and high speed On-The-Fly Conversion (OTFC) array multiplier is proposed with optimum design resulting in reduced delay, low power intake and dwindled silicon area. In the multiplier design (single precision truncated) recommended earlier, the product of 2N-bits produces 2N but partial products, excluding this 2N bit partial products, are going to be divided into 2N-(N/2) bits and N/2 bits. As a result finally, 2N bits are created by the adding of above bits using ripple carry adder. The array multiplier outlined in this paper is designed and implemented with no truncation or addition technique, instead, it is executed using a typical array multiplier scheme. The proposed array multiplier in this paper produces the high order bit (MSB) of the final product. The multiplier design outlined in this

paper leverages the On the Fly Conversion converter that is implemented at the tail end of the multiplier. This is to achieve the expedited carry propagation in the last leg of the multiplication. To highlight and contrast the benefits of the proposed array multiplier we have considered the previous designs proposed for different bits (8, 16 and 32) for features and critical parameters like silicon area, delay and power. As part of the implementation, we are able to attain remarkable results with low power consumption, minimum delay, smaller area and less energy.

Keywords: Array multiplier, Truncation, OTF Conversion, Ripple Carry Adder

References:

1. A flexible low power DSP with a programmable truncated multiplier by (Manuel.D. la Guia Solaz, W.Han, and R. Conway), IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 59, no. 11, pp. 2555–2568, 2012.
2. Hou - J. Ko And Shen- F. Hsiao, "Design And Application Of Faithfully Rounded And Truncated Multipliers With Combined Deletion, Reduction, Truncation, And Rounding," IEEE Trans. Circuits Syst. II, Express Briefs, Vol. 58, No. 5, Pp. 304–308, 2011.
3. The o. A. Drane, T. M. Rose, and G. A. Constantinides, "On the systematic creation of faithfully rounded truncated multipliers and arrays," IEEE Trans. Comput., vol. 63, no. 10, pp. 2513–2525, 2014.
4. Nicola. Petra, D. De Caro, V. Garofalo, E. Napoli, Anda. G. M. Strollo, "Truncated Binary Multipliers With Variable Correction And Minimum Mean Square Error," IEEE Trans. Circuits Syst. I, Reg. Papers, Vol. 57, No. 6, Pp. 1312–1325, Jun. 2010.
5. Sang Man Moh and Suk Han Yoon "HIGH SPEED ARRAY MULTIPLIERS BASE on ON THE FLY CONVERSION" ETRL journal, volume 19,no. 4 dec 1997
6. Milos. D. Ercegovac And Tomas Lang, "On-The-Fly Conversion Of Redundant Into Conventional Representation," IEEE Trans. Comput., Vol. C-36, No. 7, Pp. 895–897, 1987.
7. Mr. S Vasu Krishna and E Mahesh Kumar "A Novel Energy-Efficient Multiplier Using OTFC" IOSR Journal of VLSI and Signal Processing (IOSR-JVSP) Volume 8, Issue 2, Ver. I Mar.-Apr. 2018.
8. Z. Shun, Oliver. A. Pfander, H. J. Pfleiderer, And A. Bermak, "A VLSI Architecture For A Run-Time Multi-Precision Reconfigurable Booth Multiplier," In Proc. 14th IEEE Int. Conf. Circuits Syst., Pp. 975–978, 2007
9. A. Vazquez And E. Antelo, "Area And Delay Evaluation Model For CMOS Circuits," Internal Report, University Santiago De Compostela (Spain), Jun. 2012.
10. M. L. Hsia and O. T. C. Chen, "Low-power multiplier optimized by partial-product summation and adder cells," in Proc. IEEE Int. Conf. Circuits Syst., pp. 3042–3045, 2009.
11. Manchall. Ahuja and Sakshi, "Design and analysis of bypassing multiplier," in Proc. 5th Int. Conf. ART Com, pp. 241–246, 2013
12. Ming. C. Wen, S. Jyan. Wang, And Y. N. Lin, "Low Power Parallel Multiplier With Column Bypassing," In Proc. IEEE Int. Symp.Circuits Syst., Pp. 1638–1641, 2005
13. Jia Jia. Chen, C. H. Chang, F. Feng W. Ding, and J. Ding, "Novel design algorithm for low-complexity programmable FIR filters based on an extendeddouble-base number system," IEEE Trans. Circuits Syst. I, Reg. Papers, vol. 62, no. 1, pp. 224–233, 2015.
14. H. Bessalah, K. Messaoudi, M. Issad, N. Anane, and M. Anane, "Left-to-right serial multiplier for large numbers on FPGA," in Proc. IEEE ICM, pp. 1–6, 2009.
15. Z. Huang and M. D. Ercegovac, "High-performance low-power left-to-right array multiplier design," IEEE Trans. Comput., vol. 54, no. 3, pp. 272–283, Mar. 2005.
16. N. Takagi and T. Horiyama, "A high-speed reduced-size adder under left-to-right input arrival," IEEE Trans. Comput., vol. 48, no. 1, pp. 76–80, Jan. 1999.
17. Valeria. Garofalo, N. Petra, And E. Napoli, "Analytical Calculation Of The Maximum Error For A Family Of Truncated Multipliers Providing Minimum Mean Square Error," IEEE Trans. Comput., Vol. 60, No. 9, Pp. 1366–1371, Sep. 2011
18. Sabya. Das And Sunil P. Khatri, "Generation Of The Optimal Bit-Width Topology Of The Fast Hybrid Adder In A Parallel Multiplier," In Proc. IEEE Int. Conf. Integr. Circuit Des. Technol., Pp. 1–6, May 2007.
19. Z. Shun, Oliver. A. Pfander, H. J. Pfleiderer, And A. Bermak, "A VLSI Architecture For A Run-Time Multi-Precision Reconfigurable Booth Multiplier," In Proc. 14th IEEE Int. Conf. Circuits Syst., Pp. 975–978, 2007
20. Valeria. Garofalo, N. Petra, And E. Napoli, "Analytical Calculation Of The Maximum Error For A Family Of Truncated Multipliers Providing Minimum Mean Square Error," IEEE Trans. Comput., Vol. 60, No. 9, Pp. 1366–1371, Sep. 2011
21. L. Ciminiera And Paolo. Montuschi, "Carry-Save Multiplication Schemes Without Final Addition," IEEE Trans. Comput., Vol. 45, No. 9, Pp. 1050–1055, 1996.
22. S. Rong. Kuang and J. P. Wang "Design of power-efficient configurable booth more multiple" IEEE Trans. Circuits Syst. I, Reg.Papers, vol. 57,no. 3, pp. 568–580, 2010.
23. Z. Yu, L. Wasserman, and A. N. Willson, Jr., "A painless way to reduce power dissipation by over 18 Booth-encoded carry-save array multipliers for DSP," in Proc. IEEE Workshop Signal Process. Syst., pp. 571–580, 2000.
24. Wen Yan, Milos D. Ercegovac, He Chen "An Energy Efficient Multiplier With Fully Overloaded Partial Products Reduction And Final Addition "IEEE Trans. Circuits Syst. I, Regular Papers Express Briefs, 2016.
25. Mr. S Vasu Krishna and E Mahesh Kumar "A Novel Energy-Efficient Multiplier Using OTFC" IOSR Journal of VLSI and Signal Processing (IOSR-JVSP) Volume 8, Issue 2, Ver. I Mar.-Apr. 2018.

72.

Authors: **T V Murali Krishna, S Sivaji, Sunil Tej B**

Paper Title: **Automating the Verification of OCS in Airbag Control Unit (ACU)**

Abstract: Airbags have been introduced in automobile long back for the safety of the passengers. Though airbags did fairly good in safety of the passengers, its activation was hazardous many a times as it involves in explosives like sodium azide. though it is having deflation mechanism, it even more harmful to the infants and kids.it necessitates to have an automatic occupant's classification system, so as to classify the occupants of the seat. The National Highway Transportation and Safety Administration (NHTSA) has mandated to equip with automatic system to detect the presence of child or infants from 2006 onwards.In this paper we proposed to classify the outcome as four classes namely infant occupant, child, adult of empty so as to take the decisions accordingly. The automation scripts are written in java script. Here the module's functional requirements are scripted into many test cases. So, each time human has to execute each script individually. This process takes more time and also an engineer has to physically sit there. Hence "One Click Automation" is required and Automation framework for ACU modules is designed.

Keywords: Airbag Control Unit, Occupant Classification Status, Automation framework, Java Script.

References:

1. M.E. Farmer, A.K. Jain ,"Occupant classification system for automotive airbag suppression", Computer Vision and Pattern Recognition, 2003. Proceedings. 2003 IEEE Computer Society Conference on 18-20 June 2003
2. Michael E. Farmer , Anil K Jain , "Smart Automotive Airbags: Occupant Classification and Tracking", IEEE Transactions on Vehicular Technology (Volume:56 , Issue: 1) Jan. 2007.
3. Vijay D'Silva, Daniel Kroening, and Georg Weissenbacher, "A Survey of Automated Techniques for Formal Software Verification", Ieee Transactions On Computer-Aided Design Of Integrated Circuits And Systems, Vol. 27, No. 7

350-353

4. Eun Ha Kim, Jong Chae Na, Seok Moon Ryoo, “Implementing an Effective Test Automation Framework”, 2009 33rd Annual IEEE International Computer Software and Applications Conference.

73.	**Authors:**	**T V Murali Krishna, Mohan Kumar D, Ashok Kumar Reddy K**	
	Paper Title:	**Multi Directional Security system using ultrasonic sensor**	
	Abstract: The main aim of this project is to provide high security in museums ,art galleries and banks with low cost. We will place ultrasonic sensor on top of the DC motor and the dc motor speed will be controlled by 8052 micro controller. The ultrasonic sensor gives the distance of the persons from the object. When any one tries enter in the security region then it will give the sound through buzzer. **Keywords:** Proteus, keil, Assembly Langauage. **References:** 1. Ardalan Vahidi and Azim Eskandarian, “Research Advances in Intelligent Collision Avoidance and Adaptive Cruise Control”, IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, VOL. 4, NO. 3, SEPTEMBER 2003, pp 143-153. 2. Review of National Automated Highway Research Program, 1998. 3. Tarak Gandhi and Mohan M. Trivedi, “Pedestrian Collision Avoidance Systems: A Survey of Computer Vision Based Recent Studies”, Proceedings of the IEEE ITSC 2006, 2006 IEEE Intelligent Transportation Systems Conference, Toronto, Canada, September 17-20, 2006. 4. Dmitriy Grammatik, “A High-resolution radar system modeling with MATLAB/SIMULINK”, Miami University (Oxford, Ohio) Department of Electrical & Computer Engineering. 5. Hiroshi Kondoh, “Fully-MMIC 76GHz Radar for ACC”, 2000 IEEE Intelligent Transportation Systems Conference Proceedings, Dearborn (MI), USA Octoberl-3, 2000, pp-299-304.	**354-357**
74.	**Authors:**	**Amrita B Pal, Priyam Singh**	
	Paper Title:	**Computerized System for Screening Aged Women with Low Bone Mass Using Digital X-ray of Calcaneum**	
	Abstract: Low bone mass (LBM) is a universal health problem in which the bone becomes fragileand more frequent in women than the men. The objective was to evaluate the adequacy of the plain digital X-ray image of calcaneum for the low bone mass evaluation by implementing neural network with a feasible accuracy when compared to X-ray with dual energy absorptiometry. Here for the study purpose, total women studied (n=52, aged 30 years and above) were classified as follows: Group-I: Normal (n=26), Group-II: Women with LBM (n=26). In each subject, a X-ray was taken for right calcaneum lateral viewn. Also, we measured bone mineral density for right proximal femur by using DXA. X-ray image was processed in MATLAB tool. A semi-automatic technique is been employed for selecting the area with calcaneum, and its trabeculae features were extracted using Canny detection technique, shape features, texture analysis, and gray level co- occurrence matrix. The feature selection was done, based on high value (≥0.6) of measure of sample adequacy (MSA) of features using principal component analysis (PCA). The classification using selected features was done with the help of an artificial neural network (ANN). In women with LBM (Group-II), the mean values of number of white pixels, solidity and contrast of calcaneum were lesser significantly, when compared to the corresponding values measured in normal women (Group-I). A semi-automatic computer aided diagnosis (CAD) tool was developed to evaluate LBM from digital X-ray of calcaneum using ANN. The accuracy of the tool was found to be 94.2%, when compared to DXA. Hence, calcaneum X-ray can be used as a inexpensive technique for evaluation of LBM. **Keywords:** Low Bone Mass , Bone Mineral Density , Dual- energy X-ray Absorptiometry, Artificial Neural Network **References:** 1. V.B.Suman, Khalid Perwez, P.S.Jeganathan, N.K.Subbalakshmi., R.Sheila, M.D.Shaila, “Risk factors associated with Osteoporosis- A population based study using p-Dexa technique” International Journal of Scientific and Research Publications, Volume 3, Issue 2, February 2013. 2. J.A. Kanis, P. Delmas, P. Burckhardt, et al., Guidelines for diagnosis and management of osteoporosis, Eur. Found. Osteoporos. Bone Dis., Osteoporos. Int. 7 (1997) 390–406. 3. V. Sapthagirivasan, M. Anburajan, and V.Mahadevan, “Bone Trabecular Analysis of Femur Radiographs for the Assessment of Osteoporosis Using DWT and DXA”, International Journal of Computer Theory and Engineering, Vol. 5, No. 4, August 2013. 4. H.K.Genant, K.Engelke, T.Fuerst. et al “Noninvasive assessment of bone mineral and structure”: state of the art. J Bone Mineral Res., 1996,11707–730. 5. Mahantesh Elemmi, Gurusiddappa Hugar, Shanta Kallur, “Recognition of Osteoporosis through CT-Images”, International Journal of Advanced Research in Computer and Communication EngineeringVol. 4, Issue 2, February 2015. 6. V. Sapthagirivasan, M. Anburajan, “Diagnosis of osteoporosis by extraction of trabecular features from hip radiographs using support vector machine: An investigation panorama with DXA”, Computers in Biology and Medicine 43,2013. 7. D. Chaudari, A.Samal, “A simple method for fitting of bounding rectangle to closed regions”, Pattern Recognit. 40 (2007) 1981– 1989. 8. A.K. Jain,“Fundamentals of Digital Image Processing”. Englewood Cliffs, NJ: Prentice-Hall, 1991. 9. B.Ragini, M.Anburajan et.al. “Evaluation of low bone mineral mass using a combination of peripheral bone mineral density and total body composition variables by neural network”, 3rd International Conference on Recent Trends in Computing, 2015. 10. International Osteoporosis Foundation. The Asian Audit: Epidemiology, Costs and Burden of Osteoporosis in Asia 2009. 11. V.Sapthagirivasan, M.Anburajan, and V. Mahadevan, “Bone Trabecular Analysis of Femur Radiographs for theAssessment of Osteoporosis Using DWT and DXA”. International journal of computer theory and engineering, vol.5,no.4,2013. 12. M.Anburajan,“Evaluation of osteoporosis using conventional radiographic methods and dual energy x-ray absorptiometry”, PhD Thesis, Anna University, Chennai, 1999.	**358-362**
75.	**Authors:**	**P. Ranjana, Rajeswari Mukesh, Achhint Kumar, N.N.S.S.Sujith, C.H.Sathyasai**	
	Paper Title:	**Vehicle Engine lock system for theft and Alcohol detection**	
	Abstract: Due to the increase in road accidents the death rate is increasing and it is a major concern than one can’t imaging. The reason for road accidents are the driver’s alcohol consumption. The death rate due to drink and drive is in high in rate due to this especially in countries like India. So a system is proposed to detect the alcohol content level of the driver. The proposed work explores the possibility to detect alcohol at very first using technology. The alcohol content of the driver is detected using the MQ3 sensors embedded in the steering of the vehicle. The breath of the driver is sensed through this sensor and the alcohol content is the blood is analyzed. The driver cannot start the car if the alcohol content is above the threshold value. The added features to this system is the alcohol sensors sense only the person sitting in the driver’s seat and will not take into account of the fellow passenger. It is also used to track the theft	**363-367**

of the vehicle if there using the figure print recognition technique. This is done by measures of the sensors connected to the NodeMCU Arduino micro controller where it is programmed to give a buzzer sound when the driver is drunk or theft to the vehicle. So the driver with alcohol consumption is identified with more accuracy and theft of vehicle can be identified .

Keywords: Actuators, Embedded, Sensors, Vehicle, Micro controller, Program.

References:

1. Sarang D. S. a. A. Chowdhury, "A Real Time Embedded System Application for Driver Drowsiness and Alcoholic Intoxication," International Journal of Engineering Trends and Technology (IJETT) , vol. 10, no. 9, Apr 2014.
2. K. T. r. ,. B. T.D.Prasanthi, "Design Of ARM Based Face Recognition," International Journal of Advanced Research in Computer Engineering & Technology (IJARCET), vol. 1, no. 9, pp. 233-240, 2012.
3. P. S. R. M. M. M. Varsha Eknath Dahiphale, "Computer Vision System for Driver Fatigue," International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE), vol. 4, no. 9, pp. 2331-2334, 2015.
4. a. P. E. Saeid. Fazli, "Tracking Eye State for Fatigue Detection," International Conference on Advances in Computer and Electrical Engineering , pp. 17-20, 2012.
5. H. L. Y. Li, S. Mu, D. Wang, H. Kim and S. Serikawa, "Motor Anomaly Detection for Unmanned Aerial Vehicles Using Reinforcement Learning," IEEE Internet of Things Journal , vol. 5, no. 4, pp. 2315 - 2322, 2018.
6. N. L. J. J. Jain and C. Busso, "Modeling of Driver Behavior in Real World Scenarios Using Multiple Noninvasive Sensors," IEEE Transactions on Multimedia, vol. 15, no. 5, pp. 1213 - 1225, 2013.
7. K. Seelam and C. J. Lakshmi, "An Arduino based embedded system in passenger car for road safety," in 2017 International Conference on Inventive Communication and Computational Technologies , coimbatore, India, 2017.

76.

Authors: **Senthil Sivakumar M, Sowmya Priya M**

Paper Title: **Design and Analysis of a Comparator for Flash ADC**

Abstract: Flash ADC is the fastest ADC in the analog to digital conversion which is employed popularly in high-frequency applications. The comparator is a major block used in the flash ADC for analog to digital conversion. The use of comparators count is varied depends on the resolution of the flash ADC. Comparator count increases as 2n for an n-bit resolution flash ADC. As the resolution of the ADC increases, the use of comparator count in the ADC is also increased as large which increases the area utilization of the ADC. This paper analyzes the area and power utilization factor of the various types of comparators in order to solve the area utilization problem in the flash ADC. The comparator circuits are simulated in cadence virtuoso using CMOS 180nm technology. The power, area and delay of the different comparators are compared for best utilization in the flash ADC.

Keywords: ADC, Comparator, Resolution, CMOS, Track and Latch, TIQ

References:

1. Senthil Sivakumar M, Banupriya M (2012),High Speed Low Power flash ADC Design for Ultra-Wide Band Applications, International Journal of Scientific & Engineering Research, Vol.3, No.5, pp.1-5.
2. Samad S, Shahriar M, and Andre I, A 0.35μm CMOS Comparator Circuit for High-Speed ADC Applications, 2005 IEEE International Symposium on Circuits and Systems, 2005, Vol. 6, pp.6134-6137.
3. P. V. Rahul, A. A. Kulkarni, S. Sankanur and M. Raghavendra, "Reduced comparators for low power flash ADC using TSMC018," 2017 International conference on Microelectronic Devices, Circuits and Systems, Vellore, 2017, pp. 1-5.
4. Senthil Sivakumar M, Joy Vasantha Rani S P, An ADC BIST using on-chip ramp generation and digital ORA, Microelectronics Journal, Vol. 81, 2018, pp.8-15.
5. M. Senthil Sivakumar, S. P. Joy Vasantha Rani (2018), Efficient Design of ADC BIST with an Analog Ramp Signal Generation and Digital Error Estimation, Journal of Circuits, Systems, and Computers, Vol. 28, No. 3, pp.1-14.
6. M. Nasrollahpour, R. Sreekumar and S. Hamedi-Hagh, "Low power comparator with offset cancellation technique for Flash ADC," 2017 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), Giardini Naxos, 2017, pp. 1-4.
7. J. Liu, F. Li, W. Li, H. Jiang and Z. Wang, "A flash ADC with low offset dynamic comparators," 2017 International Conference on Electron Devices and Solid-State Circuits, Hsinchu, 2017, pp. 1-2.
8. C. Huang, J Wu, A Background Comparator Calibration Technique for Flash Analog-to-Digital Converters, IEEE transactions on circuits and systems—i: regular papers, 2005, Vol. 52, No. 9, pp. 1732-1740.
9. J.Talukdar and B. Das, "An improved TIQ comparator based 3-bit flash ADC," 2017 1st International Conference on Electronics, Materials Engineering and Nano-Technology, Kolkata, 2017, pp. 1-4.
10. S. A. Halim, S. L. M. Hassan, N. D. b. M. Akbar and A. A. A. Rahim, "Comparative study of comparator and encoder in a 4-bit Flash ADC using 0.18μm CMOS technology," 2012 International Symposium on Computer Applications and Industrial Electronics, Kota Kinabalu, 2012, pp. 35-38.
11. S Ashwini, M Senthil Sivakumar, SP Joy Vasantha Rani, Design of linear ramp generator for ADC, IEEE Fourth International Conference on Signal Processing, Communication and Networking (ICSCN), 2017, Chennai, pp. 1-5.
12. S. Kazeminia, O. Shino, E. Haghighi and K. Hadidi, "Improved single-stage kickback-rejected comparator for high speed and low noise flash ADCs," 2013 European Conference on Circuit Theory and Design, Dresden, 2013, pp. 1-4.
13. M. Senthil Sivakumar and S. P. Joy Vasantha Rani (2018), An area efficient, high-frequency digital built-in self-test for analogue to digital converter, International Journal of Electronics, vol.105, No. 8 pp.1319–1330.

77.

Authors: **Veerayya Javvaji, Sarada Musala**

Paper Title: **Different Approaches to achieve high SNDR in Low Power Sigma Delta ADC : A Review**

Abstract: Analog to digital converter is an essential block in any on-chip digital circuit. Out of different ADC's oversampling ADC's uses sampling frequency more than the Nyquist rate which eliminates abrupt cutoff in anti-aliasing filter. A sigma-delta ADC is a type of oversampling ADC which uses a noise shaping circuit to achieve high resolution. The performance metrics such as Figure of Merit (FOM), Signal to noise distortion ratio (SNDR), bandwidth, the sampling frequency of sigma-delta ADC are important in the design of ADC. Different approaches to achieve high SNDR are discussed in this paper as SNDR is one of the primary factors of ADC.

Keywords: ADC, SNDR, FOM, Capacitive-Coupled Chopper Instrumentation Amplifier (CCIA).

References:

1. M.Rezaei, E. Maghsoudloo, M. Sawan, B. Gosselin "A 110-nW In-channel Sigma-Delta converter for large scale neural recording implants" 38th Annual International Conference of the IEEE Engineering in medical and Biology Society, pp. 5741-5744, 2016
2. B. Gosselin, A.E. Ayoub, J. F. Roy, M. Sawan, F.e Lepore, A. Chaudhuri and D. Guitton, "A Mixed-Signal Multichip Neural Recording InterfaceWith Bandwidth Reduction, "IEEE Trans. On Biomedical Circuits and Systems, vol. 3, pp. 129-141, 2009.
3. https://en.wikipedia.org/wiki/Noise_shaping
4. L. A. Williams, B. A. Wooley, "A Third order Sigma-Delta modulator with extended dynamic range", IEEE Journal for Solid State Circuts, vol. 29, pp. 193-201, 1994.
5. Jose R. Custodio, Joao Goes, Nuno Paulino, Joao P. Oliveira, Erik Bruun, "A 1.2-V 165-µW 0.29-mm2 Multibit Sigma-Delta ADC for Hearing Aids Using Nonlinear DACs and with over91dB Dynamic-Range" IEEE Transactions on Biomedical Circuit and Systems, vol:7,
6. Julian Garcia, Saul Rodriguez, Ana Rusa, " A Low Power CT Incremental 3rd order Sigma Delta ADC for Biosensor Applications", IEEE Transactions on Circuits and Systems, vol. 60, year 2013.
7. Fernando Cardes, Eric Gutierrez, "0.04mm2 103dB –A dynamic Range Second Order VCO based Audio Sigma Delta ADC in 0.13µm CMOS" , IEEE Journal of Solid State Circuits, year 2018
8. A. Babaie-Fishani and P. Rombouts, "A mostly digital VCO-based CT-SDM with third-order noise shaping," IEEE J. Solid-State Circuits, vol. 52, no. 8, pp. 2141–2153, Aug. 2017.
9. Boyu shui, Matthias Kuhl, Yiannos Manoil, "A 70.8dB 0.0045mm2 Low Power Continous Time Incremental Sigma Delta Modulator for Multi-Site Neural Recording Interface", IEEE International Symposium on Ciruits and Systems, 2018
10. Hariprasad Chandrakumar, Dejan Markovic, "A 15.2 ENOB 5KHz BW 4.5µW chopped CT Sigma-Delta ADC for Artifact Tolerant Neural Recording Front End."IEEE Journal of solid State Circuits, 2018.

78.

Authors: **M. Raja Sekar, N. Sandhya**

Paper Title: **Experiment on Diabetes Mellitus under the Quantitative Diet with Varying Body Frame**

Abstract: This paper deals with in-depth analysis of diabetes disease based on mathematical modeling. Proposed mathematical modeling is helpful in understanding sugar levels in the blood. The designed system is also useful in estimating insulin percentage for various diets. Fourteen different age groups are employed in the analysis. Fasting blood sugar level 80-110 mgmdl and upto 140 mgmdl followed by a meal have been used as the ranges for the calculations. Closed form solution method is used to solve the simultaneous differential equations.

Index terms: Diabetes mellitus, hyperglycemia, palatable diet.

References:

1. Agarwal, M.C. and Panda, K.B., "An efficient estimator in post-stratificaton", Journal of statistics, pp45-48,2001.
2. Dr. M Raja Sekar et al, " Mammogram Images Detection Using Support Vector Machines," International Journal of Advanced Research in Computer Science ",Volume 8, No. 7 pp. 329-334, July – August 2017.
3. Smith, T.M.F., "Post-stratificatio, ", The Statisticians, pp 31-39, 1991.
4. Dr. M Raja Sekar, "Diseases Identification by GA-SVMs", International Journal of Innovative Research in Science, Engineering and Technology, Vol 6, Issue 8, pp. 15696-15704, August 2017.
5. Dr. M Raja Sekar., "Classification of Synthetic Aperture Radar Images using Fuzzy SVMs", International Journal for Research in Applied Science & Engineering Technology (IJRASET) , Volume 5 Issue 8, pp. 289-296 , Vol 45, August 2017.
6. Chun-Fu Lin, Wang. Sheng –De, " Fuzzy Support Vector Machines", IEEE Transaction on Neural Networks, pp. 13-22, 2002.
7. Dr. M Raja Sekar , "Software Metrics in Fuzzy Environment " , International Journal of Computer & Mathematical Scie6nces(IJCMS) , Volume 6, Issue 9, September 2017.
8. T.S. Furey, et al., "Support Vector classification and validation of cancer tissue sampling using micro array expression data", Bioinformatics, pp 906-914, 2000.
9. Dr. M Raja Sekar,"Optimization of the Mixed Model Processor Scheduling", International Journal of Engineering Technology and Computer Research (IJETCR), Volume 5, Issue 5, pp 74-79, September-October: 2017.
10. Dr. M Raja Sekar, "Fuzzy Approach to Productivity Improvement", International Journal of Computer & Mathematical Sciences Volume 6, Issue 9, pp 145-149, September 2017.
11. Dr. M Raja Sekar et al., "An Effective Atlas-guided Brain image identification using X-rays", International Journal of Scientific & Engineering Research, Volume 7, Issue 12,pp 249-258, December-2016.
12. Dr. M Raja Sekar," Fractional Programming with Joint Probability Constraints", International Journal of Innovations & Advancement in Computer Science, Volume 6, Issue 9, pp 338-342, September 2017.
13. Dr. M Raja Sekar, "Solving Mathematical Problems by Parallel Processors"," Current Trends in Technology and Science", Volume 6, Issue 4, PP 734-738.
14. Seth, G.S., and S.K. Ghosh. Proc. Math. Soc. BHU, Vol. 11, p111-120, 1995.

79.

Authors: **Aswini Valluri, Muralidharan Jayabalan**

Paper Title: **Reduction of Power in Sram Cell with Gated Vdd Methodology**

Abstract: Memories are the most important part of portable battery operated digital devices. Since the standard SRAM cells are much power hungry, therefore reducing the power dissipation of memory plays an important role in improving the performance of the system. A low power Static RAM Cell design is analyzed by employing Gated Vdd technique. The outcomes are correlated with the standard 6T, 7T Static RAM cells which show that Gated Vdd technique yields better than the standard 6T and 7T Static RAM cells. The proposed cell dissipates 44.6% lesser power compared to the standard 6T Static RAM cell and 31.09% lesser power to the 7T Static RAM cell. Simulations are performed using Cadence Virtuoso tool with 180nm technology.

Keywords: SRAM(Static Random Access Memory), Power Dissipation, Gated Vdd, 180 nm.

References:

1. Kazi Fatima Sharif, Riazul Islam and Satyendra N. Biswas. "A New Model of High Speed 7T SRAM Cell", International Conference on Computer, Communication, Chemical, Material and Electronic Engineering, 2018.
2. Akshay Bhaskar, "Design and Analysis of Low Power SRAM Cells", International Conference on Innovations in Power and Advanced Computing Technologies, 2017.
3. Abhishek Agal, Pardeep, Bal Krishnan, "6T SRAM Cell: Design and Analysis", International Journal of Engineering Research and Applications, Volume 4, Issue 3, March 2014, Page(s): 574-577.
4. Cheng, B., Roy, S., Roy, G., Brown, A., and Asenov, A. Impact of Random Dopant Fluctuation on Bulk CMOS 6-T SRAM Scaling in Solid-State Device Research Conference, 2006. ESSDERC 2006. Proceeding of the 36th European. 2006.
5. Jawar Singh, D.K.P., Simon Hollis, and Saraju P. Mohanty, A single ended 6T SRAM cell design for ultra-low-voltage applications. IEICE Electronics Express, 2008. 5(18): p. 750-755.
6. Chang, L., et al., An 8T-SRAM for Variability Tolerance and Low- Voltage Operation in High- Performance Caches. Solid-State Circuits, IEEE

Journal of, 2008. 43(4): p. 956-963.
7. Mr.Kariyappa B S, Mr.Basavaraj Madiwalar and Mrs. Namitha Palecha, "A Comparative Study of 7T SRAM Cells", International Journal of Computer Trends and Technology (IJCTT) – Volume 4, Issue 7, July 2013, Page(s): 2188 - 2191.
8. Takeda, K., et al., A read-static-noise-margin-free SRAM cell for low- VDD and high-speed applications. Solid-State Circuits, IEEE Journal of, 2006. 41(1): p.113-121.
9. Sharif, Kazi Fatima, Riazul Islam, Mahbubul Haque, Satyendra N.Biswas, Voicu Groza, and Mansour Assaf. "Low power nMOS based memory cell." In Innovative Mechanisms for Industry Applications (ICIMIA), 2017 International Conference on, pp. 186-190. IEEE, 2017.
10. Sharif, Kazi Fatima, Riazul Islam, Mahbubul Haque, Marzia Akhter Keka, and Satyendra N. Biswas. "7T SRAM based memory cell." In Innovative Mechanisms for Industry Applications (ICIMIA), 2017, International Conference on, pp. 191-194. IEEE, 2017.
11. Jiao, Hailong, and Volkan Kursun. "Asymmetrical ground gating for low leakage and data robust sleep mode in memory banks." VLSI Design, Automation and Test (VLSI-DAT), 2011 International Symposium on. IEEE, 2011.
12. Rohit, Gaurav Saini, "A Stable and Power Efficient SRAM Cell", IEEE International Conference on Computer, Communication and Control, 2015.

80.

Authors: **Surya narain Dikshit, Mohammad Imroz Khan**

Paper Title: **Ultra Wideband CPW Antenna With Single Rejection Band**

Abstract: An ultra wideband antenna using hexagonal shaped ground plane is presented in this work. Presented structure consists of coplanar waveguide (CPW) feed. Hexagonal shaped ground slot results in gradual variation in slot impedance, thereby improving impedance matching. This results in wide impedance bandwidth. A horizontal conducting strip is embedded in the ground plane and is protruded into the ground slot for changing the capacitive reactance of slot impedance. This variation in slot impedance results in single band rejection, extending from 6.7-7.9 GHz. Hence, proposed structure covers the entire ultra wideband range with a single rejection band.

Keywords: cpw, slot, ultra wideband

383-385

References:

1. Tu, Zhi-hong, Wen-Ao Li, and Qing-Xin Chu. "Single-layer differential CPW-fed notch-band tapered-slot UWB antenna." IEEE Antennas and Wireless Propagation Letters 13 (2014): 1296-1299.
2. Siddiqui, Jawad Y., Chinmoy Saha, and Yahia MM Antar. "A novel ultrawideband (UWB) printed antenna with a dual complementary characteristic." IEEE Antennas and Wireless Propagation Letters 14 (2015): 974-977.
3. Azim, Rezaul, Mohammad Tariqul Islam, and Ahmed Toaha Mobashsher. "Design of a dual band-notch UWB slot antenna by means of simple parasitic slits." IEEE Antennas and Wireless Propagation Letters 12 (2013): 1412-1415.

81.

Authors: **N. Srikanta, M. Pachiyannan**

Paper Title: **A Dual Band Antenna Utilizing Sierpinski Fractal Geometry for X/Ku Band Applications**

Abstract: This proposed research letter reported the different Iterations of Fractal antenna for X/Ku Band applications. The standard rectangular patch modified with different Iterations to achieve this dual band characteristics. In this research work the fractal structure is applied to attain the required resonance frequencies of 11.85/12.77/13.83 GHz with wideband behaviour. The overall dimensions of the patch is 38.04x29.44 mm utilizing high frequency supporting material Rogers RT/Duroid 5880 with dialectic constant of 2.2. This projected work is evaluated by ANSYS 3D High frequency structure simulator which uses a finite element approach solver for EM structures. The suggested work exhibits VSWR < 2, gain of 6.6 dBi with good radiation efficiency satisfying X/Ku Band applications, also it is suitable for remote sensing, surface movement radar applications.

Keywords: Fractal Structure, Iterations, Rectangular Patch, Remote Sensing, X/Ku Band.

386-389

References:

1. Sedghi. M. S, Moghadasi. M. N, Zarraabi, "A dual band fractal slit antenna loaded by jerusalem crosses for wireless plus WiMAX communications", Prog. Electro-magnet. Res. Lett. 61, pp. 19–24, 2016.
2. Ramesh G, Bhartia P, Inder B and Apisak I, "Microstrip antenna design handbook", Artech House 2000.
3. Kumar D, Sharma. M and Bansal. S, "Novel Design of Key Shaped Fractal Antenna for UWB Applications", Sixth International Conference on Computational Intelligence and Communication Networks, pp. 87-90, 2014.
4. Mandelbort, Petigen. B. B, "The Fractal geometry of Nature" W. H. Freeman and Company, 1982.
5. Choudhary. R, Yadav. S, Jain. P and Sharma. M, "Full Composite Fractal Antenna with Dual Band used for Wireless Applications", International Conference on Advances in Computing, Communications and Informatics, pp. 25172520, 2014.
6. H. Ebrahim Zadeh, Ch. Ghobadi and J.Nourinia, " Circular Multi fractal UWB monopole antenna", IEICE Electronics Express, Vol. 7, No. 10, pp. 717-721, 2010.
7. C.A. Balanis, "Antenna Theory: Analysis and Desin", Wiley-Interscience, 2012.

82.

Authors: **Sanjeet Kumar Bhagat, Anil Kumar Karra, S Sekhar Babu**

Paper Title: **A Compact Size Dielectric Resonator Antenna for Multiband Application: Design and Analysis**

Abstract: In this paper we discussed about an optimum design of Dielectric Resonator Antenna (DRA) for wireless Applications with single feed structure has been designed and investigated in this paper. Proposed antenna radiates at 4th band Resonating frequencies are 2.38GHz, 3.56GHz, 4.59GHz and 8.26GHz and gain of the Antenna are respectively 6.42,5.65,6.7, and 5.9 respectively which is widely used for the Wireless applications. The 10dB fractional Bandwidth of the Antennas are 10%, 5%, 3.7% and 11%. A micro-strip feed line is used to excite the antenna; length of slot is used for impedance matching.
From the return loss plot it is verified that it is Multiband Antenna.

Keywords: Hemisphere, DRA, Cross-slot, Coax feed, Length of slot.

390-392

References:

1. Xiao-Chuan Wang, Lin Sun, Xian-Long Lu, Sen Liang and Wen-Zhong Lu "Single-Feed Dual-Band Circularly Polarized Dielectric Resonator Antenna for CNSS Applications" IEEE Trans. Antennas Propag Lett. vol. 9, pp. 347-350, 2017.
2. M.Bemani, S.Nikmehr and H. Younesiraad, "A Novel Small Triple Band Rectangular Dielectric Resonator Antenna for WLAN and WiMAX Applications," Journal of Electromagnetic Waves and Appli., vol. 25, pp. 1688-1698, 2012.

3. "Petosa, Dielectric Resonator Antenna" Handbook. London, U.K.: Artech House, 2007.
4. K. M. Luk and K. W. Leung, "Dielectric Resonator Antenna". Baldock, U.K.: Research Studies Press, 2003.
5. "Cross-Slot-Coupled wide Dual-Band Circularly Polarized Rectangular Dielectric Resonator Antenna" Meng Zhang, Bin Li, Member, IEEE, and Xin Lv

83.	**Authors:**	**Rebba Chandra Sekhar, D. Nagamani**
	Paper Title:	**Optimaization of PAPR using Non-Linear Companding with Weighting Function for MIMO-OFDM Systems**

Abstract: Orthogonal Frequency Division Multiplexing (OFDM) is a key wireless broadband technology employed in Long Term Evaluation (LTE), LTE -Advanced (LTE-A) and World Wide Interoperability for Microwave Access (WiMAX) cellular standards. Multi carrier modulated systems (MCM) is the fundamental principle for OFDM where the wideband frequency selective channels are splited into narrow band frequency flat faded channels, results in reducing Inter Symbol Interference (ISI). OFDM offers several advantages like orthogonality and low complexity at the transmitter and receiver by replacing number of modulators/de modulators by Inverse Fast Fourier Transform (IFFT) and Fast Fourier Transform (FFT) respectively. The motivation behind MIMO is high data rate. High data rate communication link with transmission rates 1Gigabits/sec or more. That barrier can be achieved using the conventional SISO configuration at the cost of much power and much bandwidth. MIMO-OFDM is the solution to above problems and provides enormous data rates and channel quality without premium on bandwidth and power. One of the major drawbacks of MIMO-OFDM system is high Peak to Average Power Ratio. The high PAPR causes signal clipping which leads to information loss and inter carrier interference. In this paper weighting function with Non-linear companding technique (mu-law) is used to optimize the PAPR for MIMO-OFDM systems. Weighting function is pulse shaping function which consist of smooth shape with low frequency components and should not interfere with transmitted bits. Simulation results are performed in MATLAB; Results shown that by choosing proper weighting function with mu-law value the PAPR of OFDM system is effectively decreased.

Keywords: MIMO, LTE, OFDM, LTE-A, PAPR, WIMAX, Precoding, BER, mu-law companding, CCDF

393-398

References:

1. John A.C.Bingham "Multicarrier modulation for data transmission: An Idea whose time has come", IEEE Communication Magazine, PP.5-14 May 1990.
2. H.Umadevi and K.S.Gurumurthy "OFDM Technique For Multi Carrier Modulation Signaling", Journal of Emerging Trends in Engineering and Applied Sciences, 2(5), PP.787-794, 2011.
3. R. Chandrasekhar, M. Kamaraju, M. V. S. Sairam and G. T. Rao, "PAPR reduction using combination of precoding with Mu-Law companding technique for MIMO-OFDM systems," 2015 International Conference on Communications and Signal Processing (ICCSP), Melmaruvathur, 2015, pp. 0479-0483.
4. R. Chandrasekhar, M. Kamaraju, K. Rushendra Babu, B. Ajay Kumar " Optimization of Peak to Average Power Ratio Reduction using Novel Code for OFDM Systems" Springer International Conference on Microelectronics, Electromagnetics and Telecommunication (ICMEET-2015) 18th -19th December 2015, Visakhapatnam, ISBN 978-81-322-2726-7, page numbers 267-275.
5. Imran Ali Tasadduq and Raveendra K. Rao "Weighted OFDM with Block Codes for Wireless Communication" IEEE, PP.441-444, 2001.
6. K Srinivasarao, Dr B Prabhakararao, and Dr M.V.S Sairam "peak-to-average power reduction in MIMO OFDM systems using sub-optimal algorithm" International Journal of Distributed and Parallel Systems (IJDPS) Vol.3, No.3, May 2012.
7. Seung Hee Han and Jae Hong Lee "An Overview of Peak-To-Average Power Ratio Reduction Techniques for Multicarrier Transmission", IEEE Wireless Communications, PP. 56-65, April 2005.
8. V.Vijayarangan and Dr.R.Sukanesh " an overview of techniques for reducing peak to average power ratio and its selection criteria for orthogonal frequency division multiplexing radio systems" journal of theoretical and applied information technology, PP.25-36, 2009.

84.	**Authors:**	**Ramamohana B, Gopinathan P, Chandrasekhar I**
	Paper Title:	**Engineering Properties of GGBS & Fly ash Synthesized Geopolymer Concrete at Different Environmental Conditions by Comparing with Conventional Concrete**

Abstract: One of the alternative User friendly materials in place of conventional concrete is geopolymer concrete with same effect. Utilization of raw materials is less in geopolymer binders as well as decreases the emission of carbon dioxide. With these reasons most of the researchers are doing work on these types of resins to create eco-friendly accommodation. This paper presents the historic expansion of alkali-activated resin, the process of geopolymerization and its importance. In this paper integrated the engineering behaviour of flyash and GGBS synthesized binder at different mix proportions as well as at dissimilar curing environments and these properties are compared with conventional concrete. Positive results are appeared at higher percentage of GGBS (70%) compared to all other proportions. It was found that geopolymer concrete is gaining almost 25-30 MPa strength in 24 hours of sunlight curing, but to achieve same strength more than 28 days curing required in Conventional concrete.

Keywords: Durability; Fly ash; Geopolymer Binder; GGBS; Properties.

399-407

References:

1. Robbie M. Andrew, Global CO_2 emissions from cement production, Center for International Climate Research. Hydrology and Earth Sciences System-2017.
2. M. Schneider, M. Romer, M. Tschudin, H. Bolio, "Sustainable cement production-present and future", Cement and Concrete Research 41 (2011) 642–650.
3. Farina I, Modano M, Zuccaro G, Goodall R, Colangelo F, Improving flexural strength and toughness of geopolymer mortars through additively manufactured metallic rebars, Composites Part B (2018).
4. Nakshatra B. Singh, "Review- Fly Ash-Based Geopolymer Binder: A Future Construction Material", 12 July 2018.
5. P. Yellaiah, Sanjay Kumar Sharma and T. D. Gunneswara Rao, Tensile Strength of Fly ash Based Geopolymer Mortar, ARPN Journal of Engineering and Applied Sciences, 2014.
6. Pan, Zhong tao, Yifang cao, Richard wuhrer, Measurement and Prediction of Thermal Properties of Alkali-activated Flyash/slag Binders at Elevated Temperatures, RILEM 2016.
7. Paratibha Aggarwal, Rahul Pratap Singh and Yogesh Aggarwal, "Use of nano-silica in cement based materials—A review", Cogent Engineering (2015), 2: 1078018.
8. T. Bakharev, "Geopolymeric Materials Prepared Using Class F Fly Ash and Elevated Temperature Curing", C and CR, 2004.
9. Ganapati Naidu. P, A.S.S.N.Prasad, S.Adiseshu, P.V.V.Satayanarayana, A Study on Strength Properties of Geopolymer Concrete with Addition of G.G.B.S, IJERD, ISSN: 2278-067X, Vol-2, Issue-4, 2012.

10. H.A. Abdel-Gawwada, S.A. Abo-El-Eneinb, A novel method to produce dry geopolymer cement powder", HBRC Journal (2016) 12, 13–24.
11. Benjamin C. McLellan, Ross P. Williams, Janine Lay, Arie van Riessen, Glen D. Corder,"Costs and carbon emissions for Geopolymer pastes in comparison to Ordinary Portland Cement", Journal of Cleaner Production. 19(9-10), 1080-1090 (2011).
12. T. Bakharev, "Durability of geopolymer materials in sodium and magnesium sulfate solutions" Department of Civil Engineering, Monash University, Clayton, Victoria 3800, Australia, 2004.
13. E.U. Haq, S.K. Padmanabhan, A. Licciulli, "Synthesis and characteristics of fly ash and bottom ash based geopolymers–a comparative study", Ceram. Int. 40 (2014) 2965–2971.
14. K. L. Aughenbaugh, T. Williamson, M. C. G. Juenger, "Critical evaluation of strength prediction methods for alkali-activated fly ash", Materials and Structures (2015) 48:607–620.
15. A.M. Mustafa A Bakri, H. Kamarudin, M. Bnhussain, I. Khairul Nizar, A. R.Rafiza and Y. Zarina, "The Processing, Characterization, and Properties of Fly ash Based Geopolymer Concrete", Rev.Adv.Mater. Sci. 30 (2012) 90-97.
16. A. Palomo, M.W. Grutzeck, M.T. Blanco, Alkali-activated fly ashes A cement for the future, Cement and Concrete Research 29 (1999) 1323–1329.
17. Gokhan Gorhan, Gokhan Kurklu, The influence of the NaOH solution on the properties of the fly ash-based geopolymer mortar cured at different temperatures, Composites: Part B 58 (2014) 371–377.
18. Muhd Fadhil Nurruddin, Sani Haruna, Bashar S. Mohammed, Ibrahim Galal Sha´aban. Methods of curing geopolymer concrete: A review, International Journal of Advanced and Applied Sciences, 5(1) 2018, Pages: 31-36
19. Nath, Pradip and Sarker, Prabir. 2012. Geopolymer concrete for ambient curing condition, in The Australasian Structural Engineering Conference 2012 (ASEC 2012).
20. Badami Bhavin, Prof. Jayeshkumar Pitroda, Prof.J.J.Bhavsar, Geopolymer Concrete and its Feasibility in India, Proceedings of National Conference CRDCE13, 20-21 December 2013, SVIT.
21. Bellum Ramamohana Reddy, Gopinathan P, Chandra Sekhar Reddy I, A Review on Durability Enhancement of Fly Ash Based Geopolymer Concrete at Different Curing Temperatures-LCA, JETIR September 2018, Volume 5, Issue 9.

	Authors:	**Meghalatha CK, B. Seetha Ramanjaneyulu**
	Paper Title:	**Analyzing The Coexistence of IEEE802.11g Systems with IEEE802.15.4 WPAN Systems**

Abstract: With the increasing demand of smart wireless devices, which operate in the 2.4GHz ISM band using different technologies such as IEEE 802.11g (Wi-Fi) and IEEE 802.15.4 (ZigBee), it becomes necessary to understand the impact of their coexistence on the performance of the involved heterogeneous networks. The coexistence performance of these technologies basically depends on factors like the spread spectrum employed, transmission powers, data rates, payload, message length, type of modulation etc. In this work, coexistence is analyzed based on transmission power and traffic scheduling techniques that reduce interference between wireless devices (WLAN and WPAN) operating in the 2.4GHz ISM band. Simulation studies are carried out using OMNET++ with varying values of channel power, traffic scheduling, Bandwidth, Message length and data rate. From the simulations it is observed that the device powers beyond a limit cause packet failures of other devices to increase exponentially, which in turn indicates the allowed power levels suitable to the environment.

85.

Keywords: Coexistence, Channel Access, Traffic scheduling, Bandwidth Utilization, Opportunistic Access, Spectrum Allocation

408-412

References:

1. Sunil Jacob, priyanka Ravi "Enabling Coexistence of ZigBee and Wi-Fi" Communications on Applied Electronics(CAE), New York, USA, 2015, pp.28-34.
2. R. Natarajan, P. Zand and M. Nabi, "Analysis of coexistence between IEEE 802.15.4, BLE and IEEE 802.11 in the 2.4 GHz ISM band," IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society, Florence, 2016, pp. 6025-6032.
3. M. Rihan, M. El-Khamy and M. El-Sharkawy, "On ZigBee coexistence in the ISM band: Measurements and simulations," 2012 International Conference on Wireless Communications in Underground and Confined Areas, Clermont Ferrand, 2012, pp. 1-6.
4. J. Neburkaet al., "Study of the coexistence between ZigBee and Wi-Fi IEEE 802.11b/g networks in the ISM band," 2015 25th International Conference Radioelektronika (RADIOELEKTRONIKA), Pardubice, 2015, pp. 106-109.
5. A. El-Keyi, H. U. Sokun, T. N. Nguyen, Q. Ye, H. J. Zhu and H. Yanikomeroglu, "A novel probabilistic path loss model for simulating coexistence between 802.11 and 802.15.4 networks in smart home environments," 2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Montreal, QC, 2017, pp.1-5.
6. S. J. Shellhammer, "Estimation of Packet Error Rate Caused by Interference using Analytic Techniques - A Coexistence Assurance Methodology,"IEEE P802.19 Wireless Coexistence, 2005.

	Authors:	**Retz Mahima Devarapalli, Hemantha Kumar Kalluri, Venkatesulu Dondeti**
	Paper Title:	**Lung Cancer Detection of CT Lung Images**

Abstract: Cancer is one of the deadliest diseases leading to innumerable deaths worldwide. Early detection of lung cancer could increase the survival rate. To detect cancer various image processing techniques have been innovated and applied like median-wiener filter in the preprocessing stage. In the classification Back Propagation model, SVM (Support Vector Machines), Forward Neural Networks, Convolution Neural Networks are used to detect whether the nodule is cancerous or not. Although, there are many such techniques which are available these days but there is still need to further develop early detection to improve accuracy leading to better survival rate.

86.

Keywords: Lung cancer detection, SVM Classifier, Image Processing.

413-416

References:

1. http://www.who.int/news-room/fact-sheets/detail/cancer
2. https://www.lungcancer.org/find_information/publications/163-lung_cancer_101/268-types_and_staging
3. https://www.cancer.org/cancer/non-small-cell-lung-cancer/detection-diagnosis-staging/detection.html
4. P.B. Sangamithra, & S. Govindaraju, "Lung Tumor Detection and Classififcation using EK- Mean Clustering", International Conference on Wireless Communications, Signal Processing and Networking, IEEE WiSPNET conference, pp. 2201-2206,2016.
5. Deep Prakash K, Prasad P W C, Alsadoon A, Sreedharan S, "Early Detection of Lung Cancer using SVM Classifier in Biomedical Image Processing", IEEE International Conference on Power, Control, Signals and Instrumentation Engineering, pp. 3143-3148,2017.
6. Janee Alam, Sabrina Alam, Alamgir Hossan, "Multi-Stage Lung Cancer Detection and Prediction Using Multi-class SVM Classifier", International Conference on Computer, Communication, Chemical, Material and Electronic Engineering (IC4ME2), 2018
7. Ms. Twinkal Patel, Vimal Nayak, "Hybrid Approach for Feature Extraction of Lung Cancer Detection", 2nd International Conference on Inventive Communication and Computational Technologies (ICICCT 2018), pp. 1431-1433, 2018.
8. Mithuna B.N, Dr. Pushpa Ravikumar, Arpitha C.N, "A Quantitative Approach for Determining Lung Cancer Using CT scan Images",

Proceedings of the 2nd International conference on Electronics, Communication and Aerospace Technology ICECA 2018pp. 1786-1790,2018.
9. Rekka Mastouri, Henda Neji, Saoussen Hantous-Zannad, Nawres Khlifa, "A morphological operation-based approach for Subpleural lung nodule detection fom CT images", 2018 IEEE 4th Middle East Conference on Biomedical Engineering, MECBME, pp.84-89,2018.
10. Hongyang Jiang, He Ma, Wei Qian, Mengdi Gao & Yan Li, An Automatic Detection System of Lung Nodule Based on Multigroup PatchBased Deep Learning Network, IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS, VOL. 22, NO. 4, pp. 1227-1237, JULY 2018
11. A.R. Talebpour, H.R. Hemmati, M. Zarif Hosseinian, "Automatic Lung Nodules Detection In Computed Tomography Images Using Nodule Filtering and Neural Networks", The 22nd Iranian Conference on Electrical Engineering (ICEE 2014), pp. 1883-1887,2014.
12. S. Kalaivani, Pramit Chatterjee, Shikhar Juyal, Rishi Gupta, "Lung Cancer Detection Using Digital Image Processing and Artificial Neural Networks", International Conference on Electronics, Communication and Aerospace Technology, ICECA, 100-103, 2017.

87.

Authors: **Venkata Ranga Rao Kommineni, Hemantha Kumar Kalluri**

Paper Title: **Image Denoising Techniques**

Abstract: Now-a-day's Digital Image Processing assumes an indispensable job in our day by day works too. Quality of images plays a crucial role, for example in Medical field. Medical Fundus images are used for detecting eye related diseases. Primary objective of Denoising of an image is not only to remove noise but also to preserve the image details as many as possible. In this paper, the work focuses on various image denoising techniques and their efficiency is measured through various parameters like PSNR-Peak Signal Noise Ratio and MSE-Mean Square Error.

Keywords: De-noising, Image Filtering, Mean Filter, Median Filters, Speckle noise, Salt and Pepper noise, and Gaussian noise.

References:

1. Rafael C. Gonzalez and Richard E. Woods "Digital Image Processing " , Pearson Education, Second Edition 2005
2. Manonmani S Lalitha V.P, Shantha Ranga Swamy,"Survey of Image Denoisng Techniques", International Journal of Science, Engineering and Technology research (2278-7798) Volume 5, Issue 9 September 2016.
3. Govindaraj V, Sengottaiyan G, " Survey of Image Denoisng using Different Filters", International Journal of Science, Engineering and Technology research(2278-7798) Volume 2,Issue 2 February 2013.
4. Priyanka Kamboj, Versha rani, " A Brief Study of Various Noise Model and Filtering Techniques ", Journal of Global Research in Computer Science (2229-371X) Volume 4, No.4, April 2013
5. Inderpreet Singh, Nirvair Neeru "Performance Comparison of various Image Denoising Filters Using Spatial Domain " , International Journal of Computer Applications (0975-8887), Volume 96, No 19, June 2014.
6. Rajneesh Mishra, Priyanka Pateriya, D.K.Rajoria, Anand Vadrhan Bhalla "Comparative Analysis of Various Image Denoisng Techniques: A Review Paper ", International Journal of Computer Science & Engineering (2347-2693), Volume-3, Issue 6, June 2015.
7. Mansi Pathak, Dr G.R Sinha "A Survey on Fuzzy Based Image Denoisng Techniques ", IOSR Journal of Electronics and Communication Engineering (e-ISSN: 2278-2384, P-ISSN: 2278-8735), Volume 9, Issue 4, Ver I (Jul-Aug2014).
8. Sukhkinder Kaur" Noise Types and Various Removal techniques ", International Journal of Advanced Research in Electronics and Communication Engineering , Volume 4, Issue 2, February 2015.
9. Bhawna, Sukhjeet Kaur Ranade " Performance Analysis of Filter based Techniques for Image Denoising ", IJCST, VOL 6, Issue 2, April-June 2015.
10. R Srinivas, Satarupa Panda " Performance Analysis of Various Filters for Image Noise Removal in Different Noise Environment", International Journal of Advanced Computer Research (ISSN (print): 2249-7277 ISSN (online): 2277-7970) Volume-3 Number-4 Issue-13 December-2013

417-419

88.

Authors: **Ramalingaswamy Cheruku, Pradeep Kumar Nalluri, Naga Sanketh Vysyaraju, Gopi Krishna Yogeshwar Gavuji,Balaji Sai Charan Jalukuru, Veeraiah Talagondapati**

Paper Title: **Rule Extraction Algorithms on Type-2 Diabetes Data**

Abstract: Diabetes is a metabolic disorder in which body produces insufficient insulin or no insulin. As a result blood sugar levels in the body increases and causes severe complications in the long run. Medical decision support systems play a crucial role in identifying the diabetes in the early stages. This helps the doctors to provide better diagnostics to increase patient lifespan. In the literature there are many such decision support systems available. In this paper we are presenting the performance of such systems and this helps the researchers working in this field.

Keywords: Survey, Diabetes, Support Systems

References:

1. About Diabetes from National Institute of Diabetes and Digestive and Kidney Diseases and can be found at
2. https://www.niddk.nih.gov/health
3. information/diabetes/overview/what-is-diabetes
4. About Diabetes from Research Institute Foundation and can be found at https://www.diabetesresearch.org/what-is-diabetes
5. Statistics About Diabetes from American Diabetes Association and can be found at http://www.diabetes.org/diabetes-basics/statistics/
6. Early Diabetes Symptoms from n WebMD and can be found at https://www.webmd.com/diabetes/guide/understanding-diabetes-symptoms#1
7. Pourpanah, Farhad, Chee Peng Lim, and Junita Mohamad Saleh. "A hybrid model of fuzzy ARTMAP and genetic algorithm for data classification and rule extraction." Expert Systems with Applications 49 (2016): 74-85.
8. Ganji, Mostafa Fathi, and Mohammad Saniee Abadeh. "A fuzzy classification system based on Ant Colony Optimization for diabetes disease diagnosis." Expert Systems with Applications 38.12 (2011): 14650-14659.
9. Beloufa, Fayssal, and Mohammed Amine Chikh. "Design of fuzzy classifier for diabetes disease using Modified Artificial Bee Colony algorithm." Computer methods and programs in biomedicine 112.1 (2013): 92-103.
10. Daho, Mostafa El Habib, et al. "Recognition of diabetes disease using a new hybrid learning algorithm for nefclass." Systems, Signal Processing and their Applications (WoSSPA), 2013 8th International Workshop on. IEEE, 2013.
11. Kiziloluk, Soner, and Bilal Alatas. "Automatic mining of numerical classification rules with parliamentary optimization algorithm." Advances in Electrical and Computer Engineering15.4 (2015): 17-24.
12. Cheruku, Ramalingaswamy, Damodar Reddy Edla, and Venkatanareshbabu Kuppili. "SM-RuleMiner: Spider monkey based rule miner using novel fitness function for diabetes classification." Computers in biology and medicine 81 (2017): 79-92.

420-426

89.

Authors: **Sajja Tulasi Krishna, Hemantha Kumar Kalluri**

Paper Title: **Deep learning and transfer learning approaches for image classification**

Abstract: Women Deep Learning is-one of the machine learning areas, applied in recent areas. Various techniques have been proposed depends on varieties of learning, including un-supervised, semi-supervised, and supervised-learning. Some of the experimental results proved that the deep learning systems are performed well compared to conventional machine learning systems in image processing, computer vision and pattern recognition. This paper

427-432

provides a brief survey, beginning with Deep Neural Network (DNN) in Deep Learning area. The survey moves on-the Convolutional Neural Network (CNN) and its architectures, such as LeNet, AlexNet, GoogleNet, VGG16, VGG19, Resnet50 etc. We have included transfer learning by using the CNN's pre-trained architectures. These architectures are tested with large ImageNet data sets. The deep learning techniques are analyzed with the help of most popular data sets, which are freely available in web. Based on this survey, conclude the performance of the system depends on the GPU system, more number of images per class, epochs, mini batch size.

Keywords: Convolutional- Neural Network (CNN); Deep-Learning (DL);-Machine Learning (ML); Pre-trained Network; Transfer Learning.

References:

1. Sharma, N., Jain, V., & Mishra, A. (2018). "An Analysis of Convolutional Neural Networks for Image Classification", Procedia Computer Science, Vol.132, pp.377-384.
2. Fukushima &Kunihiko. (1988). "Neocognitron: A hierarchical neural network capable of visual pattern recognition". Neural networks, Vol. 1.2 pp. 119-130.
3. Pan, SinnoJialin, &Qiang Yang. (2010)."A survey on transfer learning", IEEE Transactions on knowledge and data engineering, IEEE, Vol. 22.10, pp. 1345-1359.
4. LeCun, &Yann, (1998). "Gradient-based learning applied to document recognition", Proceedings of the IEEE, IEEE. Vol. 86.11, pp. 2278-2324.
5. Krizhevsky, A., Sutskever, I., & Hinton, G. E. (2012)."Imagenet classification with deep convolutional neural networks", In Advances in neural information processing systems, pp. 1097-1105.
6. Simonyan, Karen, & Andrew Zisserman (1998)," Very deep convolutional networks for large-scale image recognition", arXiv preprint arXiv, pp. 1409.1556.
7. Szegedy, C., Liu, W., Jia, Y., Sermanet, P., Reed, S., Anguelov, D., &Rabinovich, A. (2015). "Going deeper with convolutions", In Proceedings of the IEEE conference on computer vision and pattern recognition, IEEE (CVPR), pp. 1-9.
8. Szegedy, C., Ioffe, S., Vanhoucke, V., &Alemi, A. A. (2017). "Inception-v4, inception-resnet and the impact of residual connections on learning". In Association for the Advancement of Artificial Intelligence (AAAI), Vol. 4, p. 12.
9. He, K., Zhang, X., Ren, S., &Sun, J. (2016). "Deep residual learning for image recognition". In Proceedings of the IEEE conference on computer vision and pattern recognition, IEEE (CVPR), pp. 770-778.
10. Hana D., Qigang Liu , &Weiguo Fan. (2017), "A New Image Classification Method Using CNN transfer learning and Web Data Augmentation", Expert Systems with Applications, Elsevier, Vol. 95, pp. 43-56.
11. Pak, M., & Kim, S. (2017)."A review of deep learning in image recognition". In Computer Applications and Information Processing Technology (CAIPT), 4th International Conference on IEEE, pp. 1-3.
12. Hussain, M., Bird, J. J.,&Faria, D. R. (2018). "A Study on CNN Transfer Learning for Image Classification". In UK Workshop on Computational Intelligence, Springer, Cham, pp. 191-202.
13. Rawat, W., & Wang, Z. (2017). "Deep convolutional neural networks for image classification: A comprehensive review". Neural computation, Vol. 29(9), pp. 2352-2449.
14. Loussaief, S., &Abdelkrim, A. (2018). "Deep learning vs. bag of features in machine learning for image classification", In 2018, International Conference on Advanced Systems and Electric Technologies (IC_ASET), IEEE, pp. 6-10.
15. Maggiori, E., Tarabalka, Y., Charpiat, G., &Alliez, P. (2017). "High-resolution image classification with convolutional networks". In Geoscience and Remote Sensing Symposium (IGARSS), 2017 IEEE International, IEEE, pp. 5157-5160.
16. Ballester, P., &de Araújo, R. M. (2016). "On the Performance of GoogLeNet and AlexNet Applied to Sketches", In Association for the Advancement of Artificial Intelligence (AAAI), pp. 1124-1128.
17. Alom, M. Z., Taha, T. M., Yakopcic, C., Westberg, S., Hasan, M., Van Esesn, B. C., &Asari, V. K. (2018). "The History Began from AlexNet: A Comprehensive Survey on Deep Learning Approaches". arXiv preprint arXiv:1803.01164.
18. CIFAR10 and CIFAR100 data sets: https://www.cs.toronto.edu/~kriz/cifar.html
19. Dutta S, Manideep BC, Rai S, &Vijayarajan V. (2017) "A comparative study of deep learning models for medical image classification." IOP Conference Series: Materials Science and Engineering, Vol.263, No.4, pp.042097.
20. Pouyanfar, S., Sadiq, S., Yan, Y., Tian, H., Tao, Y., Reyes, M. P., &Iyengar, S. S. (2018). "A Survey on Deep Learning: Algorithms, Techniques, and Applications". ACM Computing Surveys (CSUR), 51(5), pp.92.
21. Ma, B., & Xia, Y. (2018). "Autonomous Deep Learning: A Genetic DCNN Designer for Image Classification". arXiv preprint arXiv:1807.00284.
22. Ranganathan, H., Venkateswara, H., Chakraborty, S., &Panchanathan, S. (2017). "Deep active learning for image classification". In Image Processing (ICIP), 2017 IEEE International Conference, IEEE. pp. 3934-3938.
23. Soekhoe, D., van der Putten, P., &Plaat, A. (2016). "On the impact of data set size in transfer learning using deep neural networks". In International Symposium on Intelligent Data Analysis, Springer, Cham, pp. 50-60.
24. Cheng, P. M., &Malhi, H. S. (2017). "Transfer learning with convolutional neural networks for classification of abdominal ultrasound images". Journal of digital imaging, Springer, Vol. 30(2), pp.234-243.
25. Shaha, M., &Pawar, M. (2018). "Transfer Learning for Image Classification". In 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), IEEE, pp. 656-660.
26. Devikar, P. (2016). "Transfer Learning for Image Classification of various dog breeds", International Journal of Advanced Research in Computer Engineering and Technology (IJARCET), Vol. 5(12), pp. 2707-2715.
27. Lee, S. J., Chen, T., Yu, L., & Lai, C. H. (2018). "Image classification based on the boost convolutional neural network". IEEE Access, Vol. 6, pp. 12755-12768.
28. Aarthi, R., &Harini, S. (2018). "A Survey of Deep Convolutional Neural Network Applications in Image Processing". International Journal of Pure and Applied Mathematics, Vol. 118 No. 7, pp. 185-190.
29. Ososkov, G., &Goncharov, P. (2017). Shallow and deep learning for image classification. Optical Memory and Neural Networks, Springer, Vol. 26(4), pp. 221-248.
30. Maggiori, E., Tarabalka, Y., Charpiat, G., &Alliez, P. (2017). High-resolution image classification with convolutional networks. In Geoscience and Remote Sensing Symposium (IGARSS), 2017 IEEE International, IEEE, pp. 5157-5160.

90.

Authors: **Mohammad Taj, N V R Vikram G**

Paper Title: **MEMS-Based Energy Harvesters for IoT Applications**

Abstract: This paper reviews the various MEMS (Micro Electro Mechanical Systems) based energy harvesting techniques for IoT (Internet of Things) applications. The significant part of IoT is sensor network which requires wireless power sources. Based on requirement, the IoT has been implementing the autonomous powers harvesting technology. The MEMS-based vibrating devices are useful for harvesting energy with environmental effects likes Thermal, Vibrating, and Electromagnetic waves. Various methods of energy harvesting and vibrating sources are discussed.

Keywords: MEMS, IoT, Harvesting, Thermal, Vibrating, Electromagnetic waves.

References:

1. D. Zhu, “Vibration Energy Harvesting: Machinery Vibration, Human Movement and Flow-Induced”, InTech, 2011.
2. L.L.G.A.G. Avila Bernal, “The modeling of an electromagnetic energy harvesting architecture”, Applied Mathematical Modelling, no. 4728–4741, p. 14, 2012.
3. A.O.H.A.S.C.a.P.C.A. Takacs, “Recent advances in electromagnetic energy harvesting and Wireless Power Transfer for IoT and SHM applications”, in IEEE International Workshop (ECMSM), Donostia-San Sebastian, 2017, pp. 1-4, 2017.
4. R.N.T.M.J.T.P.G.-J.T.O.C.R.S.a.S.R.S P Beeby, “A micro electromagnetic generator for vibration energy harvesting”, Journal of Micromechanics and Microengineering, vol. 17, no. 10.1088/0960-1317/17/7/007, p. 10, 2007.
5. Mouser Electronics, 2007. [Online]. Available: https://www.mouser.in/new/mide/mide-v2xx/.
6. G.S.M.S.U.S.A.C.a.A.R.J. Iannacci, “A novel toggle-type MEMS vibration energy harvester for the Internet of Things applications,” IEEE Sensors, Orlando, FL, no. doi: 10.1109/ICSENS.2016.7808553, p. 3, 2016.
7. D.U.M.H.F. Michahelles, “An Architectural Approach Towards the Future Internet of Things”, in Architecting the Internet of Things Berlin Germany: Springer Heidelberg, vol. 24, 2011.
8. J.I.E.S.R.D.C.G.S.M.G.A.B.M.B.T.K.G.S.G.P.P.M. Sarro, “Multi-modal vibration based MEMS energy harvesters for ultra-low power wireless functional nodes”, Springer Microsystem Technologies, vol. 20, p. 2, 2014.
9. R.E.S.M.C.d.N.M.J.M.G.J.v.d.M.V.P.R.J.M.V.M.R.R.v. Schaijk, “Shock-induced energy harvesting with a MEMS harvester for automotive applications”, Proc. IEEE Int. Electron devises Meeting (IEDM), no. pp. 29.5.1-29.5.4 2011, 2011.
10. G.S.J.I.F. Solazzi, “An analytical model for the optimization of toggle-based RF-MEMS varactors tuning range”, in pp. 263-266 2013, 2013.
11. J.I.G. Sordo, “Up-scaled macro-device implementation of a MEMS wideband vibration piezoelectric energy harvester design concept”, Springer Microsystem Technologies, no. vol. 22 no. 7 pp. 1639-1651, 2016.
12. M.D.A.R.M.F.M. Tartagni, “A Nanopower Synchronous Charge Extractor IC for Low-Voltage Piezoelectric Energy Harvesting With Residual Charge Inversion”, IEEE Trans. Power Electron, vol. 31, no. 1263-1274, p. 2, 2016.
13. C.D.S.D.J.C.J.G.P.F. Casset, “3D Multi-Frequency MEMS Electromechanical”, in Proc. of EuroSimE, p. pp. 1–5, 2009.
14. E.S.R.D.C.G.S.M.G.A.J. Iannucci, “Multi-modal vibration based MEMS energy harvesters for ultra-low”, Springer Microsystem Technologies, p. 2, 20.
15. E. Halvorsen, “Fundamental issues in nonlinear wide-band vibration energy harvesting”, APSPR, no. vol. 87 pp. 1-6 May 2013.

91.

Authors: **N ArunaKumari, M Sai Srinivas, K Aravind**

Paper Title: **Implementation of 64 Bit Arithmetic Adders**

Abstract: Adders are very essential components in integrated circuits. In the applications of Digital Signal Processing (DSP) adders are very much required. Researchers are trying to design adders which are fast, power efficient and occupies less area. Adders play vital role in modern applications. In integrated circuit designs power, area and speed are the key parameters while building a circuit. Research is going on to built adders which consume low power, less space on chip and fast or combination of these three parameters. In our survey, the implementation of different adders like Ripple Carry Adder, Carry Increment Adder, Carry Skip Adder, Carry Select Adder , Carry Look Ahead Adder, Brent Kung Adder, Sklansky Adder, Kogge-Stone Adder, Ladner-Fischer Adder, Knowles Adder, Han-Carlson Adders were discussed. We did the comparison based on the delay.

Keywords: Ripple Carry Adder, Carry Skip Adder, Carry Increment Adder, Carry Look Ahead Adder, Carry Select Adder, BrentKung Adder, Sklansky Adder, Kogge Stone Adder, Ladner Fischer Adder, Knowles Adder, Han Carlson Adder

References:

1. Pudi. V, Sridhara., K,“Low Complexity Design of RippleCarry and Brent KungAddersinQCA”, Nanotechnology, IEEE transactions on, Vol. 11, Issue 1, pp. 105-119, 2012.
2. Vibhuti Dave, ErdaOruklu and JafarSaniie, "Performance Evaluation ofFlagged Prefix Adders for Constant Addition", Department of Electrical andComputer Engineering, Illilois Institute of technology, Chicago, 200630
3. Comparison Between Various Types of Adder Topologies 1Jasbir Kaur, 2Lalit Sood,IJCST Vol. 6, Issue 1, Jan - March 2015 ISSN : 0976-8491 (Online) | ISSN : 2229-4333 (Print)
4. Yousuf, Romana& , Najeeb-ud-din. (2008). Synthesis of carry select adder in 65 nm FPGA.IEEE Region 10 Annual International Conference, Proceedings/TENCON.1-6. 10.1109/TENCON.2008.4766397.
5. O. J. Bedrij, “Carry-select adder,” IRE Trans. Electron.Comput.,vol. EC-11, no. 3, pp. 340–344, Jun. 1962.
6. Sarabdeep Singh, DilipKumar,“Design of Area and PowerEfficient Modified Carry Select Adder”, International Journalof Computer Applications, Vol. 33, No. 3, pp. 14-18, Nov2011.
7. Animulislam, M.W. Akram, S.D. pable, Mohd. Hasan,“Design and Analysis of Robust Dual Threshold CMOS FullAdder Circuit in 32 nm Technology”, International Conferenceon Advanced in Recent Technologies in Communication andComputing, 2010.
8. DeepaSinha, Tripti Sharma, K.G.Sharma, Prof.B.P.Singh,“Design and Analysis of low Power 1-bit Full AdderCell”,IEEE, 2011.
9. Nabihah Ahmad, RezaulHasan,“A new Design of XORXNORgates for Low Power application”, InternationalConference on Electronic Devices, Systems and Applications(ICEDSA), 2011.
10. Padma Devi, AshimaGirdher, Balwinder Singh, “ImprovedCarry Select Adder with Reduced Area and Low PowerConsumption”, International Journal of Computer Application, Vol. 3, No. 4, June 2010 .

437-444

92.

Authors: **Madhura K, Rajeshree Raut, M.S.S. Rukmini**

Paper Title: **Encoders for SCMA**

Abstract: Women In order to satisfy the growing number of users for massive communication in 5G wireless communication systems, One of the NOMA (Non- Orthogonal Multiple Access) technique, Sparse Code Multiple Access (SCMA) is used. In SCMA, to curtail the Bit Error Rate (BER) , latency and complexity codebook design plays an important role. This paper emphasizes on study of various encoders and encoding techniques to achieve the above expectations.

Keywords: 5G communication, LDPC, MPA, NOMA, SCMA

References:

1. M.Kulkarni and R.D.Raut, “SCMA- A survey on Advancement towards 5G Communication,” Advanced Science and Technology Letters Vol.147 (SMART DSC-2017), pp.487-498, Dec 2017.
2. Sparse Code Multiple Access (SCMA) for 5G Radio Transmission, document R1-162155, 3GPP TSG RAN WG1 Std. Huawei, HiSilicon, Busan, South Korea, Apr. 2016.
3. G. D. Forney JR., and L.F. Wei, ”Multidimensional constellations Part I introduction, figures of merit, and generalized cross constellations,” IEEEJSAC, Aug. 1989
4. Hosein Nikopour and Hadi Baligh,”Sparse Code Multiple Access”,IEEE 24th International Symposium on Personal, Indoor and Mobile Radio Communications:Fundamentals and PHY Track, 2013

445-448

5. M.Taherzadeh, H.Nikopour,A.Bayesteh, Hadi Baligh" SCMA Codebook Design" IEEE Vehicular Technology Conference (VTC Fall), pp. 1-5, 2014
6. M.Kim, N Kim W Lee.K. Elissa, D.Cho,"Deep Learning Aided SCMA," in press submitted to IEEE Communication Letters.
7. P. Vincent, H. Larochelle, I. Lajoie, Y. Bengio, and P.-A. Manzagol, "Stacked denoising autoencoders: Learning useful representations in a deep network with a local denoising criterion," J. Mach. Learn. Res., vol. 11, pp. 3371–3408, Dec. 2010.
8. H. Qi and N. Goertz," Low-Complexity Encoding of LDPC Codes: A New Algorithm and its Performance".Institute for digital Commucations, Joint Research Institute for Image and Signal Processing,School of Engineering and Electronics, The university of EdinBurg,2018
9. A.Duttaand A.Pramanik," Modified Approximate Lower Triangular Encoding of LDPC Codes",ICACEA,2015
10. D. Kang and W. Oh, Member, IEEE, " Faster Than Nyquist transmission With Multiple Turbo-Like Codes ", IEEE c communications Letters, Vol. 20, No. 9, pp.1745-1747, Sep-2016.
11. E. Öztürk , H. Kaya, " Performance analysis of distributed turbo coded scheme with two ordered best relays ", IET Communications , Vol. 9, Iss.5, pp. 638–648, 2015.
12. T. Vivek , V. Bandi, N. Boya, P. Kumar,C.Paidimarry., " Implementation Of Turbo Codes Using Verilog-Hdl and Estimation Of its Error Correction Capability ", IEEE Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics, pp. 75-79, 2015.
13. S. Benedetto and G. Montorsi, " Role of recursive convolutional codes in turbo codes " , IEEE Electronics Letters, Vol. 31, No. 11, pp. 858-859, 25th May 1995.
14. Anders Nilsson, Student Member, IEEE, and Tor M. Aulin, Fellow, IEEE, "The Single Parity Check Code in Concatenation with Non-Recursive Inner Convolutional Codes" , ISIT 2006, Seattle, USA, pp.1628-1632, July 9 14, 2006.
15. P.Kumar, K.Gowreesrinivas,Dr.P.Samundiswary,"Design And Analysis Of Turbo Encoder Using Xilinx ISE", International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT),2016.

93.

Authors: **M.Benisha, R.Thandaiah Prabu, Thulasi Bai**

Paper Title: **Evolution of Mobile Generation Technology-A Mini Survey**

Abstract: Recent developments in the wireless technology has made the communication more familiar and reachable to all peoples. In one way the demand for mobile communication needs the integration of wireless networks into the existing fixed network like local area network(LAN), wide area network(WAN) etc., Otherwise we can say that, it needs advancements, adaptability and compatibility over the mobile services provided by various mobile generation technologies like 1G, 2G, 3G, 4G and 5G. In this paper we deeply discuss about the growth of Mobile generation technologies from 1st Generation to 5th Generation. And this paper gives an idea about how these technologies are operating and providing increased performance over the earlier generation and their merits and applications.

Keywords: LAN, WAN, 1G, 2G, 3G, 4G, 5G.

References:

1. https://www.ics.uci.edu/~magda/Courses/netsys230/ Ch1-Introduction.ppt
2. Dumbre MN, Patwa MM, Patwa MK. 5G WIRELESS TECHNOLOGIES-Still 4G auction not over, but time to start talking 5G. International Journal of Science, Engineering and Technology Research (IJSETR) Volume. 2013 Feb;2.
3. Mehta H, Patel D, Joshi B, Modi H. 0G to 5G mobile technology: a survey. J. of Basic and Applied Engineering Research. 2014 Oct;1(6):56-60.
4. Hossain S. 5G wireless communication systems. American Journal of Engineering Research (AJER). 2013;2(10):344-53.
5. BKumar BA, Rao PT. Overview of advances in communication technologies. In2015 13th International Conference on Electromagnetic Interference and Compatibility (INCEMIC) 2015 Jul 22 (pp. 102-106). IEEE.
6. Pandya K. Comparative Study on Wireless Mobile Technology: 1G, 2G, 3G, 4G and 5G. IJRTER. 2015 Sep;1(1):24-7.
7. Prinima D, Pruthi DJ. Evolution of Mobile Communication Network: from 1G to 5G. International Journal of Innovative Research in Computer and Communication Engineering. 2016;4(4):224-.
8. del Peral-Rosado JA, Raulefs R, López-Salcedo JA, Seco-Granados G. Survey of cellular mobile radio localization methods: From 1G to 5G. IEEE Communications Surveys & Tutorials. 2017 Dec 19;20(2):1124-48.
9. Farooq M, Ahmed MI, Al UM. Future generations of mobile communication networks. Academy of Contemporary Research Journal. 2013 Jan;2(1):24-30.
10. Vora LJ. Evolution of mobile generation technology: 1G to 5G and review of upcoming wireless technology 5G. International Journal of Modern Trend sin Engineering and Research. 2015 Oct.
11. Mitra RN, Agrawal DP. 5G mobile technology: A survey. ICT Express. 2015 Dec 1;1(3):132-7.
12. Vij S, Jain A. 5G: Evolution of a secure mobile technology. In2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom) 2016 Mar 16 (pp. 2192-2196). IEEE.
13. Charu, Mr. Rajeev Gupta." A Comparative Study of Various Generations in Mobile Technology", International Journal of Engineering Trends and Technology (IJETT) – Volume 28 Number 7, pp. 328-332 - October 2015.
14. Toni A. Levanen, Juho Pirskanen, Timo Koskela, Jukka Talvitie, Mikko Valkama, "Radio Interface Evolution Towards 5G and Enhanced Local Area Communications" Radio Interface Evolution Toward 5G and Enhanced Local Area Communications. VOLUME 2, pp. 1005-1029,2014
15. Roopali Sood, Atul Garg, "Digital Society from 1G to 5G: A Comparative Study", International Journal of Application or Innovation in Engineering & Management (IJAIEM), Volume 3, Issue 2, pp – 186-193 February 2014.
16. Tudzarov A, Janevski T. Functional Architecture for 5G Mobile Networks. International Journal of Advanced Science and Technology.;32:65-78.
17. Alliance NG. 5G white paper. Next generation mobile networks, white paper. 2015 Feb 17:1-25.
18. Boccardi F, Heath Jr RW, Lozano A, Marzetta TL, Popovski P. Five disruptive technology directions for 5G. arXiv preprint arXiv:1312.0229. 2013 Dec 1.
19. Sharma P. Evolution of mobile wireless communication networks-1G to 5G as well as future prospective of next generation communication network. International Journal of Computer Science and Mobile Computing. 2013 Aug;2(8):47-53.
20. Sukhdeep Singh, Navrati Saxena, Abhishek Roy and HanSeok Kim, "A Survey on 5G Network Technologies from Social Perspective", IETE TECHNICAL REVIEW, 2016.
21. Debabani Choudhury, "5G Wireless and Millimeter Wave Technology Evolution: An Overview", Microwave Symposium (IMS), 2015.

449-454

94.

Authors: **J.Katyayani , Ch.Varalakshmi**

Paper Title: **Influence of Consumer Profile on Adoption of Fintech Products with Reference to Vijayawada City, Ap**

Abstract: In this modern era there is rapid growth of electronic transactions in the finance field .There are various electronic means like NEFT,RTGS,EFT,IMPS, plastic money, internet banking, mobile banking, instant payment applications, block chain, crypto currency, Electronic wallets, online transactions in stock markets etc.. Software industry is playing key role in the finance sector. Financial corporations are also adopting digital tools while delivering the services to their customers.In this study various demographical factors such as gender, age, educational qualification, marital status,occupation,annual income were considered and found impact of various demographical factors on users interest to adopt the fintechnology.

Index Terms: BlockChain, Crypto Currency, Digital tool,Electronic Wallets,Monetary transaction

455-457

References:
1. Arvidsson.N. (2014). consumer attitudes on mobile payment services -results from a proof of concept test. International journal of bank marketing, 32(2), 150-170.
2. Ataran, A. Nami. (2011). examining the acceptance of information technology a longitudinal study on Iranian high school teachers . International conference on information and financial Engineering .
3. Goi &Ng, G. a. (2011). perception of young consumers mobile applications in Malaysia. world applied scineces, 15(1), 47-55.
4. Waranpong Boonsiritomachai, ,Krittipat Pitchayadejanant(2017).Determinants affecting mobile banking adoption by generation Y based on the UTAUT model and modified TAM,Kasetsart journal of Social Sciences
5. Venkatesh.V,Thong,J.Y.L and XU,X (2012).Consumer acceptance and use of information technology ;Extending the UTAUT .MIS,Quarterly ,Vol36,157-158
6. Ming-Chin Chen,Shih-Shiunn Chen,Hung-Ming Yeh Wei-Guang Tsaur (2016).The key factors influencing internet financial services satisfaction-an empirical study in Taiwan.American journal of Industrail and Business Management
7. Jane M.Kolodinsky, Jeanne M.Hogarth and Marianne,A Hilgert(2004).The adoption of electronic banking technologies by USA consumers.International journal of bank marketing
8. Bruce Carlin,Arna Olafsson,Michaela Pagel(2017) fintech adoption across generations ;Financial fitness in the information age-Iceland. National Bureau of Economic Research

95.

Authors: **T.J.Jeyaprabha, A.Abijith, Guru Prashanth, Chiranjeevraja.T**

Paper Title: **Implementation of Remote Patient Monitoring using Wireless Pulse Oximeter**

Abstract: A Pulse Oximeter is a device which is used to monitor the patient's vitals such as oxygen level in the blood and heart rate. The pulse oximeter can also be converted into a multi-parameter patient monitor by connecting it to an ECG monitor via cables. Now-a-days wireless battery-powered pulse oximeters are available which allows patients to have a constant check on their health. The main drawback of the current system is doctor/nurse has to walk all the way to the monitor to see the readings and make final conclusions. To make this process more reliable and bring advances in its operations, our primary goal is to produce a wireless pulse oximeter that presents its live feed in the doctor's/nurse's phone via mobile application.

Key terms: pulse oximeter, remote patient monitoring, heart rate, SpO2, Internet of Things

References:
1. [Online]. Available: https://www.hospitalsafetygrade.org
2. Borade Samar Sarierao, Amara Prakasarao, "Smart Healthcare Monitoring System Using MQTT Protocol", Published in: 2018 3rd International Conference for Convergence in Technology (I2CT), 6-8 April 2018.
3. M. El-hajj, M. Chamoun, A. Fadlallah, and A. Serhrouchni, "Analysis of authentication techniques in internet of things (iot)", Published in: 2017 1st Cyber Security in Networking Conference (CSNet), Oct 2017, pp. 1–3.
4. P. K. Binu, K. Thomas, and N. P. Varghese, "Highly secure and efficient architectural model for iot based health care systems", Published in: 2017 International Conference on Advances in Computing, Communications and Informatics (ICACCI), Sept 2017, pp. 487–493.
5. Grantham Pang ,Chao Ma, "A Neo-Reflective Wrist Pulse Oximeter", IEEE Access , Vol. 2 , Dec, pp. 1562 - 1567 2014
6. Yanchen Dai , Jian Luo, "Design of Noninvasive Pulse Oximeter Based on Bluetooth 4.0 BLE", Published in: 2014 Seventh International Symposium on Computational Intelligence and Design, vol.1, pp. 100 - 103 Dec. 2014
7. Ismael Villanueva-Miranda, Homer Nazeran , Radek Martinek, "CardiaQloud: A Remote ECG Monitoring System Using Cloud Services for eHealth and mHealth Applications", Published in: 2018 IEEE 20th International Conference on e-Health Networking, Applications and Services (Healthcom), vol.2, pp. 1 - 6, Sept. 2018
8. Michael Tamayo, Andrew Westover, Ying Sun, "Microcontroller based pulse oximeter for undergraduate capstone design", Proceedings of the 2010 IEEE 36th Annual Northeast Bioengineering Conference (NEBEC), 26-28 March 2010.
9. Tang Konglong, Wang Yong, Liu Hao, "Design and Implementation of Push Notification System Based on the MQTT Protocol", Published in: International Conference on Information Science and Computer Applications (ISCA), 2013
10. S. Sholla, R. Naaz, and M. A. Chishti, "Incorporating ethics in internet of things (iot) enabled connected smart healthcare," in 2017 IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), July 2017, pp. 262–263

458-463

96.

Authors: **S. Ramesh Babu, S. Ponnuvel, M. Prem Ananth, C. Madhankumar, S.R. Harish Kumar**

Paper Title: **Machinability Studies on High Strength Heat Resistance Ti6Al4V Titanium Alloy using Micro Textured and Coated HSS Drills**

Abstract: In this research work the effect of micro textured HSS drills on Ti-6Al-4V Titanium alloy was investigated. Micro texturing of the drills is expected to improve the tool life due to reduced sliding friction. Hence micro textured flank surface (MTFS)-HSS drill was used to conduct drilling experiments along with plain HSS drill. Cylindricity of the drilled hole was chosen as the drilled hole quality characteristic and was analysed using Analysis of Variance technique. Studies showed that the cutting speed emerged as the most significant factor. Significant variation between the plain HSS drill and MTFS drill was not observed. This promising observation shows that flank surface of the drill can be micro textured without significantly affecting cylindricity of the drilled hole. Form the observed optimal cutting conditions, holes were drilled with MTFS-HSS drill coated with AlTiN based coating material. The results showed improved drilled hole quality in terms of cylindricity values in comparison with plain HSS drill. This suggests that MTFS-HSS drill with AlTiN based coating material can be used as a promising economical alternative for drilling high strength heat resistance Titanium alloys.

Keywords: Titanium alloy; micro texturing; flank wear; TiAlN coating; ANOVA

References:
1. Rui Li, Parag Hegde, and Albert J. Shih, "High-throughput drilling of titanium alloys," Int J Mach Tool Manu, vol. 47, pp. 63-74, April 2006.
2. D. P. Saini, and P. Woodall, "Drill life optimisation when drilling TI-6AL-4V with HSS drills," ICME 9th International Conference on Manufacturing Excellence Australia: Instiution of Engineers, pp. 1-12, 2003.
3. Milan Bücker, Ekrem Oezkaya, Mike Zimon, and Dirk Biermann, "Investigations on the effects of an innovative flank face modification for the drilling of nickel-base alloys," Procedia Manuf, vol. 18, pp. 20–26, December 2018.
4. S. Niketh, and G.L. Samuel, "Drilling performance of micro textured tools under dry, wet and MQLcondition," J Manuf Processes, vol. 32, pp. 254-268, March 2018.
5. Kedong Zhang, Jianxin Deng, Xuhong Guo, Lining Sun, and Shuting Lei, "Study on the adhesion and tribological behavior of PVD TiAlN coatings with a multi-scale textured substrate surface," Int J Refract Metals Hard Mater, vol. 72, pp. 292-305, April 2018.
6. M. Prem Ananth and R. Ramesh, "Tribological improvement of titanium alloy surfaces through texturing and TiAlN coating," J surf Eng, vol. 30,

464-467

pp. 758-762, June 2014.
7. M. Balaji, K. Venkata Rao, N. Mohan Rao, and B.S.N. Murthy, "Optimization of drilling parameters for drilling of TI-6Al-4V based on surface roughness,flank wear and drill vibration," Measurement, vol. 114, pp. 332-339, September 2017.
8. D.C. Montgomery, Design and Analysis of EXPERIMENTS. John Wiley & Sons, 2009.
9. K Krishnaiah and P. Shahabudeen APPLIED DESIGN OF EXPERIMENTS AND TAGUCHI METHODS. PHI learning private limited, 2012.
10. R Panneerselvam DESIGN AND ANALYSIS OF EXPERIMENTS. PHI learning private limited, 2012.
11. C.R. Kothari and G. Garg Research methodology methods and techniques. New age international publishers, 2014.

97.

Authors: **C Ambika Bhuvaneswari, M Sivarathinabala, VelTech Rangarajan Sakunthala**

Paper Title: **Mobile Node Localization and Tracking in Wireless Sensor Networks Using Extended Kalman Filter**

Abstract: Mobile node Localization and tracking is a continuous research on wireless sensor networks (WSN). Tracking the mobile node without an external hardware device like Global Positioning System (GPS) is the major advantage for indoor localization. The two-thirst area of the WSN, increase in Battery lifetime and reduction in implementation cost has been achieved in the non-GPS devices. Traditional Received Signal strength is the stain of environmental noise due to the secular variations. In this paper, tracking of the mobile is measured from the RSSI using the mathematical expression of signal attenuation. A constant velocity model is proposed with the Random motion of the mobile node is considered for the position estimation using Extended Kalman Filtering (EKF) technique. The Extended kalman filter used to recover the noiseless RSS measurement and uncertainty measure of the estimates. The proposed RSSI with EKF algorithm results the better tracking estimation while comparing with the traditional RSSI.

Keywords: WSN, Localization, Kalman Filter, RSSI

References:

1. Stoleru R, He T, Stankovic JA. Range-free localization. In Secure Localization and Time Synchronization for Wireless Sensor and Ad Hoc Networks 2007 (pp. 3-31). Springer, Boston, MA.
2. Paul A, Sato T. Localization in wireless sensor networks: a survey on algorithms, measurement techniques, applications and challenges. Journal of Sensor and Actuator Networks. 2017 Dec;6(4):24
3. Atia M. NONLINEAR ESTIMATION TECHNIQUES FOR HIGH-RESOLUTION INDOOR POSITIONING SYSTEMS(Doctoral dissertation)..
4. Abusara A, Hassan M. Error reduction in distance estimation of RSS propagation models using Kalman filters. In2015 6th International Conference on Modeling, Simulation, and Applied Optimization (ICMSAO) 2015 May 27 (pp. 1-5). IEEE.
5. Wang T, Peng Z, Chen Y, Cai Y, Tian H. Continuous tracking for mobile targets with mobility nodes in WSNs. In2014 International Conference on Smart Computing 2014 Nov 3 (pp. 261-268). IEEE.
6. Jondhale SR, Deshpande RS, Walke SM, Jondhale AS. Issues and challenges in RSSI based target localization and tracking in wireless sensor networks. In2016 International Conference on Automatic Control and Dynamic Optimization Techniques (ICACDOT) 2016 Sep 9 (pp. 594-598). IEEE.
7. Lui G, Gallagher T, Li B, Dempster AG, Rizos C. Differences in RSSI readings made by different Wi-Fi chipsets: A limitation of WLAN localization. In2011 International Conference on Localization and GNSS (ICL-GNSS) 2011 Jun 29 (pp. 53-57). IEEE
8. On-Line RSS Calibration Method Based on Partial Errors-in-Variables Model, Jung-Hee Kim, Member, IEEE, and Doik Kim, Member, IEEE
9. Lehmann F, Chaal D, Lyhyaoui A. Proposition of a Bayesian model for the propagation of the information in a wireless sensor network. In2015 IEEE/ACS 12th International Conference of Computer Systems and Applications (AICCSA) 2015 Nov 17 (pp. 1-8). IEEE
10. Gustafsson F, Gunnarsson F. Mobile positioning using wireless networks: possibilities and fundamental limitations based on available wireless network measurements. IEEE Signal processing magazine. 2005 Jul;22(4):41-53.

468-470

98.

Authors: **N. Kanaka Durga, G. Anuradha**

Paper Title: **Plant Disease Identification Using Svm and Ann Algorithms**

Abstract: Tomato and maize are two Indian crops for rural humans to make income. These crops are contaminated with many diseases. Our main goal is to detect the sickness that is infected by the crop and take precautions to protect the crop before it spreads over the complete crop. By doing in this way, there is less loss to the farmers and requires less pesticides and additionally viable to export which no longer have an effect on our monetary growth. In this paper, we use Histogram of Oriented Gradient (HOG) operation and predict features and provide that points to the classification model. At finally, we test the leaves and identify the sickness and shift those records to the farmer through message. Here, take the leaves of the tomato and maize crops and pick out the disease with the aid of using SVM and ANN algorithms in order to find efficient result and accuracy. To predict the illnesses in early stage and take precautions and keep the vegetation leads to extend in production and income.

Keywords: Diseases, SVM, ANN algorithms, HOG, vegetation

References:

1. U. Mokhtar, M. A. S. Ali, A. E. Hassenian and H. Hefny, "Tomato leaves diseases detection approach based on Support Vector Machines," 2015 11th International Computer Engineering Conference (ICENCO), Cairo, 2015, pp. 246-250.
2. Tm, P., Pranathi, A., SaiAshritha, K., Chittaragi, N. B., & Koolagudi, S. G. (2018). Tomato Leaf Disease Detection Using Convolutional Neural Networks. 2018 Eleventh International Conference on Contemporary Computing (IC3).
3. Sabrol, H., & Satish, K. (2016). Tomato plant disease classification in digital images using classification tree. 2016 International Conference on Communication and Signal Processing (ICCSP).
4. Usama Mokhtar et al. "SVM-based detection of tomato leaves diseases". In: Intelligent Systems' 2014. Springer, 2015, pp. 641–652.
5. Raza, S.-A., Prince, G., Clarkson, J. P., & Rajpoot, N. M. (2015). Automatic Detection of Diseased Tomato Plants Using Thermal and Stereo Visible Light Images. PLOS ONE, 10(4), e0123262.
6. Arlot, Sylvain, and Alain Celisse. "A survey of cross-validation procedures for model selection." Statistics surveys, vol. 4, pp. 40-79, 2010.
7. H Sabrol and K Satish. "Tomato plant disease classification in digital images using classification tree". In: Communication and Signal Processing (ICCSP), 2016 International Conference on. IEEE. 2016, pp. 1242–1246.
8. .Jihen Amara, Bassem Bouaziz, Alsayed Algergawy, et al. "A Deep Learning-based Approach for Banana Leaf Diseases Classification." In: BTW (Workshops). 2017, pp. 79–88.
9. Hui-Ling Chen et al. "Support vector machine based diagnostic system for breast cancer using swarm intelligence". In: Journal of medical systems 36.4 (2012), pp. 2505–2519.
10. Weizheng, S., Yachun, W., Zhanliang, C., Hongda, W.: Grading Method of Leaf Spot Disease Based on Image Processing. In: Proceedings of the 2008 International Conference on Computer Science and Software Engineering, CSSE, December 1214, vol. 06, pp. 491–494. IEEE Computer Society, Washington, DC (2008).
11. Arivazhagan, S., Newlin Shebiah, R., Ananthi, S., Vishnu Varthini, S.: Detection of unhealthy region of plant leaves and classification of plant

471-473

leaf diseases using texture features. Agric. Eng. Int.: CIGR Journal 15(1) (March 2013).
12. Tian, J., Hu, Q., Ma, X., Han, M.: An Improved KPCA/GA-SVM Classification Model for Plant Leaf Disease Recognition. Journal of Computational Information Systems, 7737–7745 (2012).
13. M. Athanikar and M. Badar, "Potato leaf diseases detection and classification system," IJCSMC, vol. 5, pp. 76–88, 2016.
14. Shima Ramesh and Mr. Ramachandra Hebbar, "Plant Disease Detection Using Machine Learning," ICDI3C, 2018.
15. D.A. Godse and nalini tripathi, "Detecting Jute Plant Disease using Image Processing and Machine Learning," IJCESR Vol-5, Issue-5, 2018.

99.	**Authors:**	**G. Anuradha, Ch. Raga Madhuri, V.V.N.V. Phani Kumar**
	Paper Title:	**Iot Based Smart Advertisement Using Raspberry-Pi**

Abstract: In Advertisements are an audio or visual form of marketing communication that is brazenly sponsored non-personal message to market and sell a product. The platform is developed for the awareness and knowledge of the product which their desires. The disadvantage with lateral way of advertisement is that it is not flexible and often expensive. Many websites contain multiple advertisements leading to poor customer experience and advertising fatigue or blindness.
Our main objective is to foster a server which is administrated by the user to display in an indoor to change the ads repeatedly and reduces the expenses. These ads attract potential customers and permit the message to be seen vividly and clearly. We have divided the execution advertisement and make use of a time scheduling approach to auto play the needed ads for a specific time interval. They run under a given time span. This overall reduces the human interaction needed into 4 modules: establishing a server, creating several nodes, displaying ads on client screen without human interaction and making use of a time scheduling approach to auto play the ads.

Keywords: Raspberry Pi, Automation of advertisements, Server-client approach, Auto play

474-477

References:
1. U. Mokhtar, M. A. S. Ali, A. E. Hassenian and H. Hefny, "Tomato leaves diseases detection approach based on Support Vector Machines," 2015 11th International Computer Engineering Conference (ICENCO), Cairo, 2015, pp. 246-250.
2. Tm, P., Pranathi, A., SaiAshritha, K., Chittaragi, N. B., & Koolagudi, S. G. (2018). Tomato Leaf Disease Detection Using Convolutional Neural Networks. 2018 Eleventh International Conference on Contemporary Computing (IC3).
3. Sabrol, H., & Satish, K. (2016). Tomato plant disease classification in digital images using classification tree. 2016 International Conference on Communication and Signal Processing (ICCSP).
4. Usama Mokhtar et al. "SVM-based detection of tomato leaves diseases". In: Intelligent Systems' 2014. Springer, 2015, pp. 641–652.
5. Raza, S.-A., Prince, G., Clarkson, J. P., & Rajpoot, N. M. (2015). Automatic Detection of Diseased Tomato Plants Using Thermal and Stereo Visible Light Images. PLOS ONE, 10(4), e0123262.
6. Arlot, Sylvain, and Alain Celisse. "A survey of cross-validation procedures for model selection." Statistics surveys, vol. 4, pp. 40-79, 2010.

100.	**Authors:**	**Sri Hari Nallamala, Pragnyaban Mishra, Suvarna Vani Koneru**
	Paper Title:	**Breast Cancer Detection using Machine Learning Approaches**

Abstract: Affording in the direction of Breast Cancer Organization, Breast Cancer is solitary and one and only of the most perilous sorts of viruses that is located operative for females in the biosphere. By way of experimental professional distinguishing this cancer in her initial phase aids in abiding breathes. Based on cancer.net proposal individualized funnels for additional 120 kinds of cancer and correlated to genetic diseases. Aimed At discovering breast cancer fundamentally AI rehearses are utilized. We have foreseen adaptive ensemble voting scheme for broke down breast cancer with WBC (Wisconsin Breast Cancer) record. Intention of our effort is to associate & describe in what way CNN and logistic algorithm afford used for detecting breast cancer yet the variables are condensed. Here remain 2 categories of tumours be situated. Benign tumour and malignant tumours, where benign tumour is non-cancer and malignant is cancer tumour.

Keywords: Breast Cancer, Data Mining, Fuzzy Networks, Machine Learning, Neural Networks, WBCD.

478-481

References:
10. Sri Hari Nallamala, Siva Kumar Pathuri, Dr Suvarna Vani Koneru, "A Literature Survey on Data Mining Approach to Effectively Handle Cancer Treatment", International Journal of Engineering & Technology (IJET) (UAE), ISSN: 2227 – 524X, Vol. 7, No 2.7 (2018), SI 7, P. 729 – 732.
11. Sri Hari Nallamala, Dr. Pragnyaban Mishra and Dr. Suvarna Vani Koneru, "Qualitative Metrics on Breast Cancer Diagnosis with Neuro Fuzzy Inference Systems", International Journal of Advanced Trends in Computer Science and Engineering (IJATCSE), ISSN (ONLINE): 2278 – 3091, Vol. 8 No. 2 (2019), P. 259 – 264.
12. Sri Hari Nallamala, Siva Kumar Pathuri, Dr Suvarna Vani Koneru, "An Appraisal on Recurrent Pattern Analysis Algorithm from the Net Monitor Records", International Journal of Engineering & Technology (IJET) (UAE), ISSN: 2227 – 524X, Vol. 7, No 2.7 (2018), SI 7, P. 542 – 545.
13. Y. Tsehay et al., "Biopsy-guided learning with deep convolutional neural networks for Prostate Cancer detection on multiparametric MRI," 2017 IEEE 14th International Symposium on Biomedical Imaging (ISBI 2017), Melbourne, VIC, 2017, P. 642-645.
14. S. Nayak and D. Gope, "Comparison of supervised learning algorithms for RF-based breast cancer detection," 2017 Computing and Electromagnetics International Workshop (CEM), Barcelona, 2017, P. 13-14. doi: 10.1109/CEM.2017.7991863.
15. M. R. Al-Hadidi, A. Alarabeyyat and M. Alhanahnah, "Breast Cancer Detection Using K-Nearest Neighbor Machine Learning Algorithm," 2016 9th International Conference on Developments in Systems Engineering (DeSE), Liverpool, 2016, P. 35-39.
16. C. Deng and M. Perkowski, "A Novel Weighted Hierarchical Adaptive Voting Ensemble Machine Learning Method for Breast Cancer Detection," 2015 IEEE International Symposium on Multiple-Valued Logic, Waterloo, ON, 2015, P. 115-120.
17. H. R. Mhaske and D. A. Phalke, "Melanoma skin cancer detection and classification based on supervised and unsupervised learning," 2013 International conference on Circuits, Controls and Communications (CCUBE), Bglore, 2013, P. 1-5.r

101.	**Authors:**	**Kranthi Madala, Narendra Babu Tatini**
	Paper Title:	**IOT Based Agriculture – Field Monitoring and Irrigation Automation System**

Abstract: Agribusiness is the essential profession in our u.s.a. for quite some time. Regardless now due to advancement of humans from herbal to metropolis there's block in developing. so you can squash this problem we skip for sharp improvement methodologies using IoT. This venture joins the earth wetness, water stage, sogginess and temperature of flora are in reality managed. as a result of the variable barometrical conditions those conditions now and again may additionally reduce loose spot to install massive homes, which makes in particular difficult to maintain up

482-486

the consistency at all the spots in the regions bodily. it's miles visible that immediately an android cellular telephone - manipulate the Water framework shape, which could supply the places of work of retaining up uniform commonplace conditions are proposed. This application uses the GSM characteristic of cellphone as a reaction for water structure manage device. GSM (international Framework for transportable Correspondence) is used to reprimand the patron approximately the cautious discipline circumstance. The records is surpassed onto the customer request as SMS. This consideration is made as a component and given to the farmer's welfare.

Catchphrases: IoT, GSM module (minimized), Android, SMS, Temperature sensor, Soil stickiness sensor, Humidity sensor.

References:

1. M.K.Gayatri, J.Jayasakthi, Dr.G.S.Anandhamala, "Providing Smart Agriculture Solutions to Farmers for Better Yielding Using IoT", IEEE International Conference on Technological Innovations in ICT for Agriculture and Rural Development TIAR 2015).
2. S. R. Nandurkar, V. R. Thool, R. C. Thool, "Design and Development of Precision Agriculture System Using Wireless Sensor Network", IEEE International Conference on Automation, Control, Energy and Systems (ACES), 2014.
3. K.Lakshmisudha, Swathi Hegde, Neha Kale, Shruti Iyer, " Smart Precision Based Agriculture Using Sensors", International Journal of Computer Applications (0975-8887), Volume 146-No.11, July 2011.
4. Chetan Dwarkani M, Ganesh Ram R, Jagannathan S, R. Priyatharshini, "Smart Farming System Using Sensors for Agricultural Task Automation", IEEE International Conference on Technological Innovations in ICT for Agriculture and Rural Development (TIAR 2015).
5. S. R. Nandurkar, V. R. Thool, R. C. Thool, "Design and Development of Precision Agriculture System Using Wireless Sensor Network", IEEE International Conference on Automation, Control, Energy and Systems (ACES), 2014.
6. Monika Jhuria, Ashwani Kumar, Rushikesh Borse, "Image Processing for Smart Farming: Detection of Disease and Fruit Grading", IEEE Second International Conference on Image Information Processing (ICIIP), 2013.
7. Orazio Mirabella and Michele Brischetto, "A HybridWired/Wireless Networking Infrastructure for Greenhouse Management", IEEE Transactions on Instrumentation and Measurement, vol. 60, no. 2, pp 398-407,2011.

102.

Authors: **Mohd Afizi Mohd Shukran, Mohd Sidek Fadhil Mohd Yunus, Fatimah Ahmad, Mohd Fahmi Mohd Amran**

Paper Title: **Pixel Value Graphical Password Scheme: An Alternative Hash Password Using Hexadecimal Colour Codes**

Abstract: Pixel value graphical password scheme was designed in 2012 to simplify the user authentication process and reducing the implementation setup resource of graphical password authentication system. It was developed and tested in laboratory control environment using a camera captured photo. Through a dynamic analysis on password strength, accuracies output and usability study, pixel value graphical password scheme shows a promising result with huge potential to put into practice. In some cases, there are few limitations which need to be solved in order to implement the pixel value graphical authentication system and this study is aimed to find an alternative for password text length and size on storage disk. This paper is organised into five sections where the background of the pixel value graphical password scheme is described in the introduction section, followed by a discussion on the password style, brief description of hexadecimal code on following section, then the comparative discussion between eight bits code and hexadecimal code, and the conclusion section. The references are listed at the end of this paper.

Index Terms: graphical password, hexadecimal colour code, Passpix, pixel-value.

References:

1. HTML color codes. Available: https://html-color-codes.info/.
2. G. E. Blonder, Patent No. 5,559,961, Washington D.C., 1996.
3. M. A. M. Shukran, and M. S. F. M. Yunus, Patent No. MY-167835-A, Kuala Lumpur, 2018.
4. L. Sobrado, and J. C. Birget, "Graphical passwords," The Rutgers Scholar, An Electronic Bulletin for Undergraduate Research, 4, 2002, pp. 12-18.
5. S. Wiedenbeck, J. Waters, J.-C. Birget, A. Brodskiy, and N. Memon, "PassPoints: Design and longitudinal evaluation of a graphical password system," International Journal of Human-Computer Studies, 63(1-2), 2005, pp. 102-127.

487-489

103.

Authors: **Mohd Afizi Mohd Shukran, Nor Suraya Mariam Ahmad, Suzaimah Ramli, Farhana Rahmat**

Paper Title: **Melanoma Cancer Diagnosis Device Using Image Processing Techniques**

Abstract: Melanoma is well-known skin cancer that cause fatal. Therefore, detection of melanoma at early stage are essential to enhance the successful of survival rate. For the detection of melanoma, proper analysis is carried out on the skin lesion according to a set of specific clinical characteristics. This skin lesion clinically diagnosed begin with primary clinical screening and dermoscopic analysis, a biopsy and histopathological examination. Lastly, this skin lesion is classified as either "potential melanoma" or "non-melanoma". The process involved are lengthy to the patient and painful. Nevertheless, it can be reducing by automated skin cancer diagnosis base on skin lesions images classification. Automated classification of skin lesions using images is usually challenging, where it is needed to solve multiple task. The input to this tool is the skin lesion images, next apply image processing techniques, and later on this skin lesion images are analyses to conclude occurrence of melanoma. Typically, the analysis to checks for the various Melanoma are using pre-defined thresh-olds in classification stage such as Asymmetry, Border, Colour, Diameter and Evolution (ABCDE) where color, texture, size and shape are being analysis for image segmentation and feature stages. Within the Feature Extraction stage the Feature Values Extracted are being compared and the skin lesion is classified as Melanoma or Normal skin. For most of the skin images, this particular classification method proves to be efficient. This paper intends to provide useful information and methods that been use in skin cancer diagnosis. Hence, it gives good start for researchers to understand automated skin cancer detection at basic level phase

Index Terms ABCDE and feature extraction, image processing, Melanoma.

References:

1. I. Stanganelli, A. Brucale, L. Calori, R. Gori, A. Lovato, S. Magi, B. Kopf, R. Bacchilega, V. Rapisarda, A. Testori, and P. A. Ascierto,

490-494

"Computer-aided diagnosis of melanocytic lesions," Anticancer Research, 25(6C), 2005, pp. 4577-4582.
2. A. K. Mittra, and R. Parekh, "Automated detection of skin diseases using texture features," International Journal of Engineering Science and Technology, 3(6), 2011, pp. 4801-4808.
3. C. Barata, M. Ruela, M. Francisco, T. Mendonça, and J. S. Marques, "Two systems for the detection of melanomas in dermoscopy images using texture and color features," IEEE Systems Journal, 8(3), 2014, pp. 965-979.
4. J. A. Jaleel, S. Salim, and R. B. Aswin, "Computer aided detection of skin cancer," IEEE International Conference on Circuits, Power and Computing Technologies, 2013, pp. 1137-1142.
5. D. N. Ponraj, M. E. Jenifer, P. Poongodi, and J. S. Manoharan, "A survey on the preprocessing techniques of mammogram for the detection of breast cancer," Journal of Emerging Trends in Computing and Information Sciences, 2(12), 2011, pp. 656-664.
6. S. M. S. Ebrahimi, H. Pourghassem, and M. Ashourian, "Lesion detection in dermoscopy images using Sarsa reinforcement algorithm," IEEE 17th Iranian Conference of Biomedical Engineering, 2010, pp. 1-4.
7. S. Sookpotharom, "Border detection of skin lesion images based on fuzzy C-means thresholding," IEEE 3rd International Conference on Genetic and Evolutionary Computing, 2009, pp. 777-780.
8. O. Abuzaghleh, B. D. Barkana, and M. Faezipour, "SKINcure: A real time image analysis system to aid in the malignant melanoma prevention and early detection," IEEE Southwest Symposium on Image Analysis and Interpretation, 2014, pp. 85-88.
9. Y. Ikuma, "Production of the grounds for melanoma classification using adaptive fuzzy inference neural network," IEEE International Conference on Systems, Man, and Cybernetics, 2013, pp. 2570-2575.
10. M. S. Arifin, M. G. Kibria, A. Firoze, M. A. Amini, and H. Yan, "Dermatological disease diagnosis using color-skin images," IEEE International Conference on Machine Learning and Cybernetics, 2012, pp. 1675-1680.
11. H. Pehamberger, A. Steiner, and K. Wolff, "In vivo epiluminescence microscopy of pigmented skin lesions. I. Pattern analysis of pigmented skin lesions," Journal of the American Academy of Dermatology, 17(4), 1987, pp. 571-583.
12. W. Stolz, A. Riemann, A. B. Cognetta, L. Pillet, W. Abmayer, D. Holzel, P. Bilek, F. Nachbar, M. Landthaler, and O. B. Falco, "ABCD rule of dermatoscopy: A new practical method for early recognition of malignant melanoma," European Journal of Dermatology, 4, 1994, pp. 521-527.
13. S. W. Menzies, C. Ingvar, K. A. Crotty, and W. H. McCarthy, "Frequency and morphologic characteristics of invasive melanomas lacking specific surface microscopic features," Archives of Dermatology, 132(10), 1996, pp. 1178–1182.
14. G. Argenziano, G. Fabbrocini, P. Carli, V. D. Giorgi, E. Sammarco, and M. Delfino, "Piluminescence microscopy for the diagnosis ofdoubtful melanocytic skin lesions," Arch Dermatol, 134, 1998, pp. 1563–1570.
15. M. Sadeghi, T. K. Lee, D. McLean, H. Lui, and M. S. Atkins, "Detection and analysis of irregular streaks in dermoscopic images of skin lesions," IEEE Transactions on Medical Imaging, 32(5), 2013, pp. 849-861.
16. Q. Abbas, M. E. Celebi, C. Serrano, I. F. García, and G. Ma, "Pattern classification of dermoscopy images: A perceptually uniform model," Pattern Recognition, 46(1), 2013, pp. 86-97.
17. M. E. Celebi, H. A. Kingravi, B. Uddin, H. Iyatomi, Y. A. Aslandogan, W. V. Stoecker, and R. H. Moss, "A methodological approach to the classification of dermoscopy images," Computerized Medical Imaging and Graphics, 31(6), 2007, pp. 362-373.
18. X. Yuan, N. Situ, and G. Zouridakis, "Automatic segmentation of skin lesion images using evolution strategies," Biomedical Signal Processing and Control, 3(3), 2008, pp. 220-228.
19. M. I. Rajab, M. S. Woolfson, and S. P. Morgan, "Application of region-based segmentation and neural network edge detection to skin lesions," Computerized Medical Imaging and Graphics, 28(1-2), 2004, pp. 61-68.
20. A. Masood, and A. A. A. Jumaily, "Fuzzy C mean thresholding based level set for automated segmentation of skin lesions," Journal of Signal and Information Processing, 4(3), 2013, 66-71.
21. K. Perakis, T. Bouras, S. Kostopoulos, K. Sidiropoulos, L. Wayn, and H. Timor, "MARK1-A decision support system for the early detection of malignant melanoma," IEEE 4th International Conference on Wireless Mobile Communication and Healthcare-Transforming Healthcare through Innovations in Mobile and Wireless Technologies, 2014, pp. 108-111.
22. M. Faal, M. H. M. Baygi, and E. Kabir, "Improving the diagnostic accuracy of dysplastic and melanoma lesions using the decision template combination method," Skin Research and Technology, 19(1), 2013, pp. e113-e122.
23. R. P. Braun, and A. Marghoob, "High-dynamic-range dermoscopy imaging and diagnosis of hypopigmented skin cancers," JAMA Dermatology, 151(4), 2015, pp. 456-457.
24. J. D. Jensen, and B. E. Elewski, "The ABCDEF rule: Combining the "ABCDE Rule" and the "Ugly Duckling Sign" in an effort to improve patient self-screening examinations," Journal of Clinical and Aesthetic Dermatology, 8(2), 2015, pp. 15.
25. K. Belattar, and S. Mostefai, "Similarity measures for content-based dermoscopic image retrieval: A comparative study," IEEE 1st International Conference on New Technologies of Information and Communication, 2015, pp. 1-6.
26. D. Gautam, and M. Ahmed, "Melanoma detection and classification using SVM based decision support system," Annual IEEE India Conference, 2015, pp. 1-6.
27. S. Sujitha, M. L. Priya, J. Premaladha, and K. S. Ravichandran, "A combined segmentation approach for melanoma skin cancer diagnosis," IEEE 7th National Conference on Computing, Communication and Information Systems, 2015, pp. 11-16.
28. O. Abuzaghleh, B. D. Barkana, and M. Faezipour, "Noninvasive real-time automated skin lesion analysis system for melanoma early detection and prevention," IEEE Journal of Translational Engineering in Health and Medicine, 3, 2015, pp. 1-12.
29. J. A. A. Damian, V. Ponomaryov, and E. R. Gonzalez, "Melanoma CADe based on ABCD rule and Haralick texture features," IEEE 9th International Kharkiv Symposium on Physics and Engineering of Microwaves, Millimeter and Submillimeter Waves, 2016, pp. 1-4.
30. R. H. Chen, M. Snorrason, S. M. Enger, E. Mostafa, J. M. Ko, V. Aoki, and J. Bowling, "Validation of a skin-lesion image-matching algorithm based on computer vision technology," Telemedicine and e-Health, 22(1), 2016, pp. 45-50.
31. A. A. A. A. Abayechi, H. A. Jalab, and R. W. Ibrahim, "A classification of skin lesion using fractional Poisson for texture feature extraction," ACM 2nd International Conference on Internet of things, Data and Cloud Computing, 2017, pp. 1-7.
32. M. Ferri, I. Tomba, A. Visotti, and I. Stanganelli, "A feasibility study for a persistent homology-based k-nearest neighbor search algorithm in melanoma detection," Journal of Mathematical Imaging and Vision, 57(3), 2017, pp. 324-339.
33. K. Belattar, S. Mostefai, and A. Draa, "Intelligent content-based dermoscopic image retrieval with relevance feedback for computer-aided melanoma diagnosis," Journal of Information Technology Research, 10(1), 2017, pp. 85-108.
34. S. Turkeli, M. S. Oguz, S. B. Abay, T. Kumbasar, H. T. Atay, and K. K. Kurt, "A smart dermoscope design using artificial neural network," IEEE International Artificial Intelligence and Data Processing Symposium, 2017, pp. 1-6.
35. M. A. Arasi, E. S. M. E. Horbaty, A. B. M. Salem, and E. S. A. E. Dahshan, "Computational intelligence approaches for malignant melanoma detection and diagnosis," IEEE 8th International Conference on Information Technology, 2017, pp. 55-61.
36. C. Sagar, and L. M. Saini, "Color channel based segmentation of skin lesion from clinical images for the detection of melanoma," IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy Systems, 2016, pp. 1-5.
37. D. A. Okuboyejo, and O. O. Olugbara, "A review of prevalent methods for automatic skin lesion diagnosis," Open Dermatology Journal, 12(1), 2018, pp. 14-53.
38. N. Dwina, F. Arnia, and K. Munadi, "Skin segmentation based on improved thresholding method," IEEE International ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering, 2018, pp. 95-99.
39. M. Ritesh, and S. Ashwani, "A comparative study of various color texture features for skin cancer detection," in Sensors and Image Processing, S. Urooj and J. Virmani, Eds. Singapore: Springer, 2018, pp. 1-14.
40. American Cancer Society, Cancer facts and figs, 2016, Available: https://www.cancer.org/research/cancer-facts statistics/all-cancer-facts-figures/cancer-facts-figures-2016. html.
41. American Cancer Society, Melanoma skin cancer. 2015, Available: http://www.cancer.org/cancer/skincancer-melanoma/detailedguide/melanoma-skin-cancer-what-is-melanoma.
42. M. A. M. Shukran, Y. Y. Chung, W. C. Yeh, N. Wahid, and A. M. A. Zaidi, "Artificial bee colony based data mining algorithms for classification tasks," Modern Applied Science, 5(4), 2011, pp. 217-231.
43. M. A. M. Shukran, and K. Maskat, "An intelligent network intrusion detection using data mining techniques," Jurnal Teknologi 76(12), 2015, pp. 127-131.
44. F. R. Hashim, L. Petropoulakis, J. Soraghan, and S. I. Safie, "Wavelet based motion artifact removal for ECG signals," IEEE-EMBS Conference

on Biomedical Engineering and Sciences, 2012, pp. 339-342.

104.	**Authors:**	**Aidy Ali, M.K. Faidzi, Khairul H. Kamarudin, M.R. Saad**
	Paper Title:	**Experimental and Simulation Examination on Buckle Strength of Military Climbing Harness**

Abstract: An experimental and simulation study on strength of military climbing harness is conducted. A waist belt buckle of the military safety harness is analyzed via experimentation and simulation for stress distributions under different loadings. A tensile experiment is performed using Universal Testing Machine (UTM) 100 (KN) INSTRON and validated via simulation using ANSYS AUTODYN software to evaluate the effect of loading on critical points. The study has successfully determined the stress distribution and strain of specimen, and has also predicted the harness maximum load.

Index Terms: Harness waist belt buckle, maximum principle elastic strain, maximum shear elastic strain, maximum shear stress, stress distribution.

References:

1. S. Green, Parts of a climbing harness. Available: http://climbing.about.com/od/ climbing harness/a/HarnessPart.com.
2. Azo Materials, Stainless Steel - Grade 316 (UNS S31600). Available: http://www.azom.com/article.aspx?ArticleID=863.
3. Azo Materials, Stainless steels - Stainless 316 properties, fabrication and applications. Available: http://www.azom.com/article.aspx?ArticleID=2868.
4. Spadout Technology, Parts of a climbing harness. Available: http://www.spadout.com/w/climbing-harness.
5. Petzl, Outdoor. Available: http://www.petzl.com/en/outdoor/full-body-harnesse.
6. J. A. Speck, Mechanical Fastening, Joining, and Assembly. Florida: CRC Press, 2015.
7. T. M. Mower, "Sheave-bending and tensile fatigue of aramid-fiber strength members for communications cables," Int. Journal of Fatigue, 22, 2000, pp. 1 – 15.
8. D. Roylance, Stress-strain curves. Cambridge: Massachusetts Institute of Technology, 2001.
9. South Dakota School of Mines and Technology, Tensile testing two week project laboratory experiment. Available: https://www.scribd.com/document/122285852/tensile-test-report.
10. K. Rassiah, M. M. H. M. Ahmad, A. Ali, and M. M. Tamizi, "The influence of laminated layer and thickness gigantochloa scortechinii bamboo strips on mechanical performance of unsaturated polyester composites," Life Science Journal, 12(2), 2015, pp. 182-188.
11. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Ballistic impact performance of the layered and laminated composites: A review," Pertanika Journal Science and Technology, 23(2), 2015, pp. 177 – 185.
12. M. S. Salwani, A. Ali, B. B. Sahari, and A. A. Nuraini, "Effect of automotive side member materials on the head injury criteria (HIC) and ches severity index (CSI) of adult passanger," International Journal of Engineering and Technologies, 7, 2016, pp. 47 – 59.
13. M. Y. Soleha, K. K. Ong, W. Y. W. M. Zin, A. Mansor, F. Anwar, I. N. Azowa, S. A. S. M. Shafiq, A. Shah, N. Aisyah, A. Aidy, K. A. K. Zarina, and C. C. Teoh, "Characterization of raw and thermally treated alum sludge," Key Engineering Materials, 701, 2016, pp. 138-142.
14. S. Subramonian, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and A. Rajaizam, "Effect of fiber loading on the mechanical properties of bagasse fiber–reinforced polypropylene composites," Advances in Mechanical Engineering, 8(8), 2016, pp. 1–5.
15. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Effect on mechanical properties of rice husk/e-glass polypropylene hybrid composites using Sodium Hydroxide (NaOH)," Journal of Advances in Technology and Engineering Research, 2(4), 2016, pp. 105 – 112.
16. M. J. Suriani, A. Ali, A. Khalina, S. M. Sapuan, and Haftirman, "Fatigue life estimation of kenaf reinforced composite materials by non-destructive techniques universal," Journal of Materials Science, 4(4), 2016, pp. 88-96.
17. S. A. Ibraheem, S. S. Sreenivasan, K. Abdan, S. A. Sulaiman, A. Ali, and D. L. A. A. Majid, "The effects of combined chemical treatments on the mechanical properties of three grades of sisal," BioResources, 11(4), 2016, pp. 8968 – 8980.
18. A. Ali, K. Rassiah, F. Othman, L. H. Pueh, T. T. Earn, M. S. Hazin, and M. M. H. M. Ahmad, "Fatigue and fracture properties of laminated bamboo strips from gigantochloa scortechinii / polyester composites," BioResources, 11(4), 2016, pp. 9142 – 9153.
19. Sivarao, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and Rajaizam, "Performance evaluation of reworked weld joints," International Journal of Engineering and Technologies, 9, 2016, pp. 47 – 59.
20. K. Rassiah, and A. Ali, "A study on mechanical behaviour of surface modified rice husk/polypropylene composite using sodium hydroxide," International Journal of Engineering and Technologies, 8, 2016, pp 72 – 82.
21. N. A. Halim, A. Ali, Z. H. Z. Abidin, A. B. Ahmad, and A. Z. Sulaiman, "Thermal analysis of organically modified Ca montmorillonite using DSC and TSC techniques," Journal of Thermal Analysis and Calorimetry, 128 , 2017, pp. 135 – 140.
22. K. Rassiah, M. M. H. M. Ahmad, A. Ali, A. H. Abdullah, and S. Nagapan, "Mechanical properties of layered laminated woven bamboo gigantochloa scortechinii / epoxy," Composites Journal of Polymer and Environment, 26(4), 2018, pp. 1328 – 1342.
23. A. Ali , W. K. Ng, F. Arifin, K. Rassiah, F. Othman, M. S. Hazin, and M. M. H. M. Ahmad, "Development and mechanical characterization of green bamboo composites," AIP Conference Proceedings 1930, 2018, pp. 1 – 6.
24. A. Ali, N. W. Kuan, F. Arifin, K. Rassiah, F. Othman, S. Hazin, and M. H. M. Ahmad, "Fracture properties of hybrid woven bamboo/woven e-glass fiber composites," International Journal of Structural Integrity, 9(4), 2018, pp. 491 – 519.
25. A. Ali, R. Adawiyah, K. Rassiah, W. K. Ng, F. Arifin, F. Othman, M. S. Hazin, M. K. Faidzi, M. F. Abdullah, and M. M. H. M. Ahmad, "Ballisctic impact properties of woven bamboo-woven e glass-unsaturated polyester hybrid composites," Defense Technology, 9(4), 2018, pp. 491 – 519.
26. M. K. F. M. Paudzi, M. F. Abdullah, and A. Ali, "Fatigue analysis of hybrid composites of kenaf/kevlar fibre reinforced epoxy composites," Jurnal Kejuruteraan, 1(7), 2018, pp. 1 – 8.
27. M. K. Faidzi, A. K. Hamizi, M. F. Abdullah, M. A. Aliimran, K. Z. K. Ahmad, R. N. Othman, and A. Ali, "Fatigue crack growth behaviour of sandwiched metal panel of aluminium and mild steel under constant amplitude loading," International Journal of Engineering and Technology, 7(4.33), 2018, pp. 362 – 366.
28. A. Ali, B. B. Sahari, and M. S. Salwani, "Simple durability programming integrated with LSDYNA for automotive applications," International Journal of Engineering and Technology, 7(4.33), 2018, pp. 299 – 306.

105.	**Authors:**	**Aidy Ali, M.K. Faidzi, M. R. Saad, M. F. Abdullah**
	Paper Title:	**Crack and Leakage Detection on Steam Pipelines using Acoustic Technique**

Abstract: In this study, a non-destructive technique namely acoustic technique is performed to detect leakage and cracks on building pipelines. It is performed using AQUA M300D leak detector. The leakage is detected by analyzing the feedback frequency, where leakage area produced higher frequency due to the vibration resulting from a high pressure liquid that flows through the crevice. The method successfully detected steam pipelines system leakage with high level of accuracy.

Index Terms: Acoustic, crack, leakage, non-destructive technique, pipeline.

References:

1. Y. Gao, M. J. Brennan, P. F. Joseph, J. M. Muggleton, and O. Hunaidi, "A model of the correlation function of leak noise in buried plastic pipes," Journal of Sound and Vibration, 277(1-2), 2004, pp. 133-148.
2. J. W. Dickey, P. M. Moore, and L. E. Powell, "Acoustic leak detector," U.S. Patent 4,327,576, issued May 4, 1982.
3. Y. Murakami, Stress Intensity Factors Handbook. Oxford: Pergamon Press, 1987.
4. ASM International, Advanced material and process. Ohio: ASM International, 1990.
5. K. Rassiah, M. M. H. M. Ahmad, A. Ali, and M. M. Tamizi, "The influence of laminated layer and thickness gigantochloa scortechinii bamboo strips on mechanical performance of unsaturated polyester composites," Life Science Journal, 12(2), 2015, pp. 182 – 188.
6. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Ballistic impact performance of the layered and laminated composites: A review," Pertanika Journal Science and Technology, 23(2), 2015, pp. 177 – 185.
7. M. S. Salwani, A. Ali, B. B. Sahari, and A. A. Nuraini, "Effect of automotive side member materials on the head injury criteria (HIC) and ches severity index (CSI) of adult passenger," International Journal of Engineering and Technologies, 7, 2016, pp. 47 – 59.
8. M. Y. Soleha, K. K. Ong, W. Y. W. M. Zin, A. Mansor, F. Anwar, I. N. Azowa, S. A. S. M. Shafiq, A. Shah, N. Aisyah, A. Aidy, K. A. K. Zarina, and C. C. Teoh, "Characterization of raw and thermally treated alum sludge," Key Engineering Materials, 701, 2016, pp. 138-142.
9. S. Subramonian, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and A. Rajaizam, "Effect of fiber loading on the mechanical properties of bagasse fiber–reinforced polypropylene composites," Advances in Mechanical Engineering, 8(8), 2016, pp. 1–5.
10. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Effect on mechanical properties of rice husk/e-glass polypropylene hybrid composites using Sodium Hydroxide (NaOH)," Journal of Advances in Technology and Engineering Research, 2(4), 2016, pp. 105 – 112.
11. M. J. Suriani, A. Ali, A. Khalina, S. M. Sapuan, and Haftirman, "Fatigue life estimation of kenaf reinforced composite materials by non-destructive techniques universal," Journal of Materials Science, 4(4), 2016, pp. 88-96.
12. S. A. Ibraheem, S. S. Sreenivasan, K. Abdan, S. A. Sulaiman, A. Ali, and D. L. A. A. Majid, "The effects of combined chemical treatments on the mechanical properties of three grades of sisal," BioResources, 11(4), 2016, pp. 8968 – 8980.
13. A. Ali, K. Rassiah, F. Othman, L. H. Pueh, T. T. Earn, M. S. Hazin, and M. M. H. M. Ahmad, "Fatigue and fracture properties of laminated bamboo strips from gigantochloa scortechinii / polyester composites," BioResources, 11(4), 2016, pp. 9142 – 9153.
14. Sivarao, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and Rajaizam, "Performance evaluation of reworked weld joints," International Journal of Engineering and Technologies, 9, 2016, pp. 47 – 59.
15. K. Rassiah, and A. Ali, "A study on mechanical behaviour of surface modified rice husk/polypropylene composite using sodium hydroxide," International Journal of Engineering and Technologies, 8, 2016, pp. 72 – 82.
16. N. A. Halim, A. Ali, Z. H. Z. Abidin, A. B. Ahmad, and A. Z. Sulaiman, "Thermal analysis of organically modified Ca montmorillonite using DSC and TSC techniques," Journal of Thermal Analysis and Calorimetry, 128 , 2017, pp. 135 – 140.
17. K. Rassiah, M. M. H. M. Ahmad, A. Ali, A. H. Abdullah, and S. Nagapan, "Mechanical properties of layered laminated woven bamboo gigantochloa scortechinii / epoxy," Journal of Polymer and Environment, 26(4), 2018, pp. 1328 – 1342.
18. A. Ali , W. K. Ng, F. Arifin, K. Rassiah, F. Othman, M. S. Hazin, and M. M. H. M. Ahmad, "Development and mechanical characterization of green bamboo composites," AIP Conference Proceedings 1930, 2018, pp. 1 – 6.
19. A. Ali, N. W. Kuan, F. Arifin, K. Rassiah, F. Othman, S. Hazin, and M. H. M. Ahmad, "Fracture properties of hybrid woven bamboo/woven e-glass fiber composites," International Journal of Structural Integrity, 9(4), 2018, pp. 491 – 519.
20. A. Ali, R. Adawiyah, K. Rassiah, W. K. Ng, F. Arifin, F. Othman, M. S. Hazin, M. K. Faidzi, M. F. Abdullah, and M. M. H. M. Ahmad, "Ballisctic impact properties of woven bamboo-woven e glass-unsaturated polyester hybrid composites," Defense Technology, 9(4), 2018, pp. 491 – 519.
21. M. K. F. M. Paudzi, M. F. Abdullah, and A. Ali, "Fatigue analysis of hybrid composites of kenaf/kevlar fibre reinforced epoxy composites," Jurnal Kejuruteraan, 1(7), 2018, pp. 1 – 8.
22. M. K. Faidzi, A. K. Hamizi, M. F. Abdullah, M. A. Aliimran, K. Z. K. Ahmad, R. N. Othman, and A. Ali, "Fatigue crack growth behaviour of sandwiched metal panel of aluminium and mild steel under constant amplitude loading," International Journal of Engineering and Technology, 7(4.33), 2018, pp. 362 – 366.
23. A. Ali, B. B. Sahari, and M. S. Salwani, "Simple durability programming integrated with LSDYNA for automotive applications," International Journal of Engineering and Technology, 7(4.33), 2018, pp. 299 – 306.

Authors:	**Fatin Faiqa Norkhairi, Sivadass Thiruchelvam, Hasril Hasini, Lariyah Mohd Sidek, Rahsidi Sabri Muda, Azrul Ghazali, Kamal Nasharuddin Mustapha, Hidayah Basri, Ranjit Singh Dharam Singh**
Paper Title:	**Application of GIS as Part of Flood Risk Management for Evacuation of Vulnerable Communities during Disaster in Kenyir, Terengganu Darul Iman**

106.

Abstract: Flood due to the dam break incidence could hardly happen although there are some isolated cases reported around the world. While the probability of the dam to break might be lower, we should be cautious that disaster might strike at any time due to natural or manmade reasons. The flood management plan due to dam break need to be prepared as part of flood risk management which will act as a guideline for the dam owner to manage impending threats. The flood due to dam break could leave catastrophic impact towards the affected area in terms of loss of lives as well as destruction of properties. The usage of geographic information system (GIS) application software in the flood management could assist the dam owner to obtain a clearer picture of the disaster-stricken area should any untoward incidents occur in the future. The GIS data is important in the production of the flood risk management plan. The aim of this study is identify the probable flood risk area by using GIS method. The hydrodynamic data obtained from MIKE-21 will be layered with the image on the Google Earth to obtain the affected area during such flood. The results show that the area that are near to the dam will have high probability to be shattered by the flood.

Index Terms: Dam, flood, GIS, high vulnerable area, risk management.

505-508

References:

1. Teton Dam history and facts. RECLAMATION Managing water in the West. Available: https://www.usbr.gov/pn/snakeriver/dams/uppersnake/teton/factsheet.pdf.
2. J. Belinger, B. Westcott, and S. Sandhi, Thousands affected, scores missing after dam collapse floods towns in southern Laos. 2018, Available: https://edition.cnn.com/2018/07/25/asia/laos-dam-flood-intl/index.html.
3. CBS News, Laos vows action after dam failure with 131 still missing. 2018, Available: https://www.cbsnews.com/news/laos-dam-failure-many-missing-government-vows-safety-checks-reservoirs-dams/.
4. A. Plus, Myanmar's dam failure is second major regional tragedy. 2018, Available: https://www.thestar.com.my/news/regional/2018/08/31/disaster-raises-safety-concerns-myanmars-dam-failure-is-second-major-regional-tragedy/#qCltA0Y2khETxS2o.99.
5. R. De Risi, F. Jalayer, F. D. Paola, and S. Lindley, "Delineation of flooding risk hotspots based on digital elevation model, calculated and historical flooding extents: the case of Ouagadougou," Stochastic Environmental Research and Risk Assessment, 32(6), 2018, pp. 1545-1559.
6. S. M. Bukari, M. A. Ahmad, T. L. Wai, M. Kaamin, and N. Alimin, "Spatial analysis in determination of flood prone areas using geographic information system and analytical hierarchy process at Sungai Sembrong's catchment," IOP Conference Series: Materials Science and Engineering, 136(1), 2016, pp. 1-6.
7. M. Isma'il, and I. O. Saanyol, "Application of remote sensing (RS) and geographic information systems (GIS) in flood vulnerability mapping: case study of River Kaduna," International Journal of Geomatics and Geosciences, 3(3), 2013, pp. 618-627.

Authors:	**Mohd Khairul Amri Kamarudin, Nurul Syafiqah Muhammad, Muhammad Hafiz Md Saad, Noorjima Abd Wahab**	
Paper Title:	**Flood Impacts on Economic Factor in Kelantan, Malaysia: A Review**	

Abstract: Floods are common natural disaster occurring in most parts of the world. Report from Department of Irrigation and Drainage expressed that around 29,000 km2 or 9% of aggregate land zone and more than 4.82 million individual's (22%) is influenced by flooding every year. Kelantan has experienced a massive flood on 2014, which made some colonies flooded with water during the monsoon season. The floods that occurred in this monsoon season had given a lot of impact towards the population of Kelantan itself, especially in terms of property destruction. So, the study was conducted to identify the impact of flood to economic factor in Kelantan, Malaysia. Based on this study, the result show effect on the overall economy. The outcomes of atmosphere change on the four market affect classifications (agriculture, river floods, coastal systems, and tourism) can be esteemed in financial terms since they specifically influence sectoral markets and through the cross-part linkages the general economy.

Index Terms: Economy, flood impacts, monsoon season, Kelantan, natural disaster.

107.

509-511

References:

1. C. B. Field, V. Barros, T. F. Stocker, and Q. Dahe, Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: Special Report of the Intergovernmental Panel on Climate Change. England: Cambridge University Press, 2012.
2. K. Mohd, E. T. Mohd, M. Sharifah, H. Mushrifah, R. J. Nor, and B. G. Muhammad, "Temporal variability on lowland river sediment properties and yield," American Journal of Environmental Sciences, 5(5), 2009, pp. 657-663.
3. M. K. Kamarudin, M. E. Toriman, M. H. Rosli, H. Juahir, N. A. Aziz, A. Azid, S. F. Zainuddin, and W. N. Sulaiman, "Analysis of meander evolution studies on effect from land use and climate change at the upstream reach of the Pahang River, Malaysia," Mitigation and Adaptation Strategies for Global Change, 20(8), 2015, pp. 1319-1334.
4. M. Beniston and D. B. Stephenson, "Extreme climatic events and their evolution under changing climatic conditions," Global and Planetary Change, 44(1-4), 2004, pp. 1-9.
5. W. Nur, T. Wan, H. Nor, H. Zakaria, and M. Nazir, "Knowledge sharing and lesson learned from flood disaster: A case in Kelantan," Journal of Information Systems Research and Innovation, 9(2), 2015, pp. 1-10.
6. W. S. Yang, J. H. Noh, N. J. Jeon, Y. C. Kim, S. Ryu, J. Seo, and S. I. Seok, "High-performance photovoltaic perovskite layers fabricated through intramolecular exchange," Science, 348(6240), 2015, pp. 1234-1237.
7. M. E. Hamdan, N. Man, S. M. Yassin, J. L. D'Silva, and H. M. Shaffril," Farmers' adaptive capacity towards the impacts of global warming: A review," Asian Social Science, 9(13), 2013, pp. 177-184.
8. R. D. Vaithilingam, S. H. Safii, N. A. Baharuddin, C. C. Ng, S. C. Cheong, P. M. Bartold, A. S. Schaefer, and B. G. Loos, "Moving into a new era of periodontal genetic studies: Relevance of large case–control samples using severe phenotypes for genome-wide association studies," Journal of Periodontal Research, 49(6), 2014, pp. 683-695.
9. F. Acernese, M. Alshourbagy, P. Amico, F. Antonucci, S. Aoudia, K. G. Arun, P. Astone, S. Avino, L. Baggio, G. Ballardin, and F. Barone, "Virgo status," Classical and Quantum Gravity, 25(18), 2008, pp. 184001.
10. K. S. Low and S. A. Jamaluddin, "Assessment of the impacts of climate change on key economic sectors in Malaysia: Water resources," in Malaysia National Response Strategies to Climate Change, Putrajaya: Ministry of Science Technology and Environment, Malaysia, 2001, pp. 339-388.
11. M. K. A. Kamarudin, M. E. Toriman, N. A. Wahab, H. Juahir, A. Endut, R. Umar, and M. B. Gasim, "Development of stream classification system on tropical areas with statistical approval in Pahang River basin, Malaysia," Desalination and Water Treatment, 96, 2017, pp. 237-254.
12. W. I. Ahmad and S. M. Abdurahman, "Kelantan flood 2014: Reflections from relief aid mission to KampungKemubu, Kelantan," Mediterranean Journal of Social Sciences, 6(3 S2), 2015, pp. 340-344.
13. M. K. A. Kamarudin, M. E. Toriman, and H. S. Nur, "Classification of tropical river using chemometrics technique: Case study in Pahang River, Malaysia," Malaysian Journal of Analytical Sciences, 19(5), 2015, pp. 1001-1018.
14. R. Van Voorst, B. Wisner, J. Hellman, and G. Nooteboom, "Introduction to the "risky everyday"," Disaster Prevention and Management, 24(4), 2015, pp. 54-58.
15. Food and Agriculture Organization of the United Nations, The state of food insecurity in the world. 2015, Available: http://www.fao.org/3/a-i4646e.pdf.
16. N. S. Romali, Z. Yusop, and Z. Ismail, "Flood damage assessment: A review of flood stage–damage function curve," International Symposium on Flood Research and Management, 2015, pp. 147-159.
17. T. L. Moe and P. Pathranarakul, "An integrated approach to natural disaster management: Public project management and its critical success factors," Disaster Prevention and Management, 15(3), 2006, pp. 396-413.
18. M. K. A. Kamarudin, N. A. Wahab, M. E. Toriman, F. M. Ata, R. Umar, N. Yaakub, H. Abdullah, A. Anuar, A. R. Hassan, A. S. Saudi, and H. Harith, "Classification of sedimentation problems level using environmetric method at Terengganu River, Malaysia," International Journal of Engineering and Technology (UAE), 7(3.14), 2018, pp. 327-332.
19. F. S. Tedesco, M. F. Gerli, L. Perani, S. Benedetti, F. Ungaro, M. Cassano, S. Antonini, E. Tagliafico, V. Artusi, E. Longa, and R. Tonlorenzi, "Transplantation of genetically corrected human iPSC-derived progenitors in mice with limb-girdle muscular dystrophy," Science Translational Medicine, 4(140), 2012, pp. 1-13.
20. M. Heger, G. Zens, and M. Bangalor, Does the Environment Matter for Poverty Reduction? The Role of Soil Fertility and Vegetation Vigor in Poverty Reduction. Washington DC: The World Bank, 2018.
21. C. J. McGann, E. G. Kholmovski, R. S. Oakes, J. J. Blauer, M. Daccarett, N. Segerson, K. J. Airey, N. Akoum, E. Fish, T. J. Badger, and E. V. DiBella, "New magnetic resonance imaging-based method for defining the extent of left atrial wall injury after the ablation of atrial fibrillation," Journal of the American College of Cardiology, 52(15), 2008, pp. 1263-1271.
22. S. Nichter and L. Goldmark, "Small firm growth in developing countries," World Development, 37(9), 2009, pp. 1453-1464.
23. S. G. Muthuri, S. Venkatesan, P. R. Myles, J. Leonardi-Bee, T. S. Al Khuwaitir, A. Al Mamun, A. P. Anovadiya, E. Azziz-Baumgartner, C. Báez, M. Bassetti, and B. Beovic, "Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: A meta-analysis of individual participant data," The Lancet Respiratory Medicine, 2(5), 2014, pp. 395-404.
24. C. Silaghi, B. Kohn, A. Chirek, C. Thiel, I. Nolte, G. Liebisch, and K. Pfister, "Relationship of molecular and clinical findings on Anaplasmaphagocytophilum involved in natural infections of dogs," Journal of Clinical Microbiology, 49(12), 2011, pp. 4413-4414.
25. D. G. Moore and J. R. Curray, "Wave-base, marine profile of equilibrium, and wave-built terraces: discussion," Geological Society of America Bulletin, 75(12), 1964, pp. 1267-1273.
26. M. Douglas and A. Wildavsky, Risk and Culture: An Essay on the Selection of Technical and Environmental Dangers. California: University of California Press, 1982.
27. R. B. Thompson, B. F. Pain, and Y. J. Rees, "Ammonia volatilization from cattle slurry following surface application to grassland," Plant and Soil, 125(1), 1990, pp. 119-128.
28. M. Beaussier, H. El'Ayoubi, E. Schiffer, M. Rollin, Y. Parc, J. X. Mazoit, L. Azizi, P. Gervaz, S. Rohr, C. Biermann, and A. Lienhart, "Continuous preperitoneal infusion of ropivacaine provides effective analgesia and accelerates recovery after colorectal surgerya randomized, double-blind, placebo-controlled study," Anesthesiology: The Journal of the American Society of Anesthesiologists, 107(3), 2007, pp. 461-468.
29. J. Handmer, "Improving flood warnings in Europe: A research and policy agenda," Global Environmental Change Part B: Environmental Hazards, 3(1), 2001, pp. 19-28.

30. A. Viglione, G. Di Baldassarre, L. Brandimarte, L. Kuil, G. Carr, J. L. Salinas, A. Scolobig, and G. Blöschl, "Insights from socio-hydrology modelling on dealing with flood risk–roles of collective memory, risk-taking attitude and trust," Journal of Hydrology, 518, 2014, pp. 71-82.
31. K. Burningham, J. Fielding, and D. Thrush, "'It'll never happen to me': Understanding public awareness of local flood risk," Disasters, 32(2), 2008, pp. 216-238.
32. A. Tversky and D. Kahneman, "Judgment under uncertainty: Heuristics and biases," Science, 185(4157), 1974, pp. 1124-1131.

Authors:	**Ganesan Mayalagu, Mokhtar Jaafar, Lam Kuok Choy, Mohd Izwan Mahmud**
Paper Title:	**Reliability of Geographic Information System-Spatial Thinking Skills (GIS-STS) Module**

Abstract: This is a pilot study designed in establishing the reliability of the 'Geographic Information System' module -Spatial Thinking Skills (GIS-STS) synthesized by the researcher. This module is composed of four sub-modules: Geography Skill, Physical Geography, Human Geography and Area Geography. The research outline adapted in this study is an experimental design. Additionally, the respondents of this study concerned 30 Form Two students in one of the schools in Jempol District, Negeri Sembilan. The subjects of this study were selected using random sampling. Respondents followed Learning and Facilitation (L&F) by following the activities as set out in the module and then answered the reliability questionnaire of GIS-STS module created by the researcher by using reliability analysis. The findings show that the GIS-STS module has a significant reliability value of reliability coefficient of .873. The module is anticipated to be implemented as an effective L&F material especially in enhancing STS and attracting students to Geography subjects.

Index Terms: GIS-STS, module, reliability.

References:

1. H. Lateh and V. Muniandy, "GIS in the Malaysian geography education: Challenges and potentials," Malaysian Journal of Society and Space, 1(1), 2011, pp. 42–53.
2. J. Lee and R. Bednarz, "Effect of GIS learning on spatial thinking," Journal of Geography in Higher Education, 33(2), 2009, pp. 183–198.
3. O. M. Solari, A. Demirci, and J. Schee, Geospatial Technologies and Geography Education in a Changing World: Geospatial Practices and Lessons Learned. Tokyo: Springer, 2015.
4. S. Metoyer and R. Bednarz, "Spatial thinking assists geographic thinking: Evidence from a study exploring the effects of geospatial technology," Journal of Geography, 116(1), 2017, pp. 20–33.
5. S. J. Ahmad, and M. Noah, Construction Module: How to Build Training Modules and Academic Modules. Universiti Putra Malaysia Press, 2005.
6. D. Kandarp and S. Princ, "Modular Method of teaching," International Journal for Research in. Education, 2(2), 2013, pp. 169–171.
7. J. D. Russell and B. Lube, Modular Approach for Developing Competencies in Instructional Technology. Indiana: Purdue University, 1974.
8. G. D. Haertel and H. J. Walberg, The International Encyclopedia of Education. Oxford: Pergamon Press, 1990.
9. S. A. Alsagoff, "The introduction of individual teaching with special focus on teaching modules and learning modules," Jurnal Pendidik dan Pendidikan, 3(1), 1981, pp. 54–62.
10. D. Banegas, A. Pavese, A. Velázquez, and S. M. Vélez, "Teacher professional development through collaborative action research: Impact on foreign English-language teaching and learning," Educational Action Research, 21(2), 2013, pp. 185-201.
11. K. A. Jasmi and A. H. Tamuri, "Practical use of teaching materials in outstanding teachers of Islamic education in secondary schools in Malaysia," Journal of Islamic and Arabic Education, 3(1), 2011, pp. 59–74.
12. Z. Paikon, The effectiveness of using the module method in Malay grammar teaching at Sekolah Menengah Dato 'Penggawa Barat, Pontian, Johor. PhD thesis, Selangor: Universiti Putra Malaysia, 1991.
13. A. B. Suhaili, Reliability of teacher assessment on course work of transient program life skills. Master thesis, Pulau Pinang: Universiti Sains Malaysia: 1994.
14. S. Noordin, "Academic achievement of form four students in physics subjects through modular teaching methods," Jurnal Guru, 3(7), 1995, pp. 474-479.
15. Z. Ali, Reliability of the validity of the prediction of the Malay language teaching instrument of the STPM trial exam. Master thesis, Selangor: Universiti Putra Malaysia, 1997.
16. M. I. Mahmud, S. M. Noah, and J. Ahmad, "The validity of career readiness module- cognitive information processing (CRM-CIP)," Imperial Journal of Interdisciplinary Research, 3(6), 2017, pp. 1294–1301.
17. A. Nawi, G. A. N. Zakaria, N. Hashim, and C. C. Ren, "Penilaian kualiti modul iPBL: Aspek kesahan dan kebolehpercayaan," Journal of Quality Measurement and Analysis, 11(2), 2015, pp. 1–10.
18. Z. M. Isa, J. Bacotang, and M. C. Mustafa, "Kesahan kandungan modul literasi awal (Modul Lit-a) pada peringkat kanak-kanak berumur 2+, 3+ dan 4+ tahun," Jurnal Pendidikan Awal Kanak-Kanak, 6(1), 2017, pp. 57–68.
19. N. L. M. Ibrahim, M. A. S. Mohamed, and M. N. Bistamam, "Analisis kesahan kandungan modul penyesuaian pemikiran kerjaya (PPK) berdasarkan pendekatan teori cognitive information processing (CIP)," Jurnal Pendidikan Bitara UPSI, 7(2), 2014, pp. 52–67.
20. J. Ahmad, A. Hassan, and N. Z. Abiddin, "Developing, validity and reliability of a drug addiction module among drug addicts are undergoing treatment at rehabilitation centre," Journal of International Social Research, 1(5), 2008, pp. 47–57.
21. M. N. A. Ghafar, Education Research Developing. Johor: Universiti Teknologi Malaysia Press, 1999.
22. J. R. Fraenkel, N. E. Wallen, and H. H. Hyun, How to Design and Evaluate Research in Education. New York: McGraw-Hill, 2006.
23. R. Carmines and E. Zeller, Reliability and Validity Assessment. California: Sage Publications, 1979.
24. J. S. Ahmann and M. D. Glock, Evaluating Student Progress Principles of Tests and Measurements. Boston: Allyn and Bacon, 1981.
25. W. G. Hopkins, "Mesaures of reliability in sports medicine and science," Sports Medicine, 30(1), 2000, pp. 1–15.
26. L. Cohen, L. Manion, and K. Morrison, Research Methods in Education. Abingdon: Routledge, 2002
27. U. Sekaran and R. Bougie, Research Methods for Business: A Skill Building Approach. New Jersey: John Wiley and Sons, 2016.
28. R. Bogdan and S. K. Bilken, Qualitative Research for Education. Boston: Allyn and Bacon, 1997.
29. J. P. Robinson, P. R. Shaver, and L. S. Wrightsman, "Criteria for scale selection and evaluation," Measures of Personality and Social Psychological Attitudes, 1(3), 1991, pp. 1–16.
30. P. Panayides, "Coefficient alpha: Interpret with caution," Europe's Journal of Psychology, 9(4), 2013, pp. 687–696.
31. A. H. A. Bakar, M. N. Yusof, M. A. Tufail, and W. Virgiyanti, "Effect of knowledge management on growth performance in construction industry," Management Decision, 54(3), 2016, pp. 735–749.
32. J. R. Fraenkel, N. E. Wallen, and H. H. Hyun, How to Design and Evaluate Research in Education. New York: McGraw-Hill, 2012.
33. J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. New Jersey: Prentice Hall, 2002.
34. J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. New Jersey: Prentice Hall, 2002.
35. J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. New Jersey: Prentice Hall, 2002.
36. J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. New Jersey: Prentice Hall, 2002.
37. J. Pallant, SPSS Survival Manual. London: McGraw-Hill Education, 2013.
38. S. R. Ariffin, F. A. Katran, A. A. N. Badib, and N. A. Rashid, "Validity and reliability of the Malaysian creativity and innovation instrument

(MyCrIn) using the Rasch measurement model," 10th WSEAS International Conference on E-Activities, 2011, pp. 59-64.
39. B. W. Tuckman, "Evaluating ADAPT: A hybrid instructional model combining Web-based and classroom components," Computer Education, 39(3), 2002, pp. 261–269.
40. M. M. Konting, Educational Research Methods. Kuala Lumpur: Dewan Bahasa and Pustaka, 1998.
41. R. C. Bogdan and S. K. Bilken, Qualitative Research in Education. An Introduction to Theory and Methods. London: Palgrave Macmlian, 1998.
42. S. M. Noah and J. Ahmad, Construction Module: How to Build Training Modules and Academic Modules. Selangor: Universiti Putra Malaysia, 2005.
43. M. A. S. M. Arip, M. N. Saper, S. Jais, A. Ahmad, and N. Y. Supeni, Building the validity and reliability of Ehsan Women's Center for Transformation Module. Research Grant, MAIS, 2014.
44. R. M. Valette, Modern language testing. 1977, Available: https://eric.ed.gov/?id=ED153489.
45. G. C. Edward and A. Z. Richard, Reliability and Validity Assessment. California: Sage Publications, 1979.

109.

Authors: **Mohd Shahrieel Mohd Aras, Muhamad Khairi Aripin, Hairol Nizam Mohd Shah, Marizan Sulaiman, Alias Khamis, Mohd Bazli Bahar, Mohamad Haniff Harun**

Paper Title: **Underwater Obstacle Detection System Design using Sonar Sensor**

Abstract: In underwater field, Unmanned Underwater Vehicles (UUV) are created to help human do marine research and doing task underwater. A fully sensors robotic vehicle that is using high technology to bring new capabilities to work in the subsea environment. One of the problems facing by underwater vehicle is it need to be completely waterproof with the aid of technical skills for underwater usage and need to detect any incoming obstacle to avoid collision which might lead to hazard. Thus, this project focused on the design an underwater obstacle detection system using sonar sensor. The system need to be in small size to ease the mobility of the UUV when it performs tasks. Different distance and depth will be used to test and evaluate the distance detection since the distance also influenced by its relative depth. This project uses sonar sensor MB7078 XL-MaxSonar-WRC1 as distance detection to determine the distance between sensor and obstacle. In this project, the scope of the study focused on the interface between mechanical structure and electrical circuit design which need to be waterproof and have a detection range between 20cm to 60cm. The underwater obstacle detection system is going to undergo a series of experimental test at the end to evaluate its ability and performance underwater.

Index Terms: Detection system, sonar sensor, underwater obstacle, unmanned underwater vehicle.

References:

1. F. Khorrami and P. Krishnamurthy, "A hierarchical path planning and obstacle avoidance system for an autonomous underwater vehicle," Am. Control Conf., 2009, pp. 3579–3584.
2. J. Yuh, "Design and control of autonomous underwater robots: A survey," Kluwer Acad. Publ., 8, 2000, pp. 7–24.
3. C. Z. Ming, Design and construction of a small scale underwater vehicle with obstacle avoidance system. Bachelor thesis, Universiti Teknikal Malaysia Melaka, 2015.
4. J. J. Leonard, A. A. Bennett, C. M. Smith, and H. J. S. Feder, "Autonomous underwater vehicle navigation," Mar. Robot. Lab. Tech. Memo. 98-1, 1998, pp. 1–17.
5. K. Sigurd and J. How, "UAV trajectory design using total field collision avoidance," AIAA Guid. Navig. Control Conf., 2003, pp. 1–11.
6. L. D. Bui and Y. G. Kim, "An obstacle-avoidance technique for autonomous underwater vehicles based on BK-products of fuzzy relation," Fuzzy Sets Syst., 157(4), 2006, pp. 560– 577.
7. D. J. F. Toal, C. Flanagan, W. B. Lyons, S. Nolan, and E. Lewis, "Proximal object and hazard detection for autonomous underwater vehicle with optical fibre sensors," Rob. Auton. Syst., 53(3–4), 2005, pp. 214–229.
8. M. Zyda and R. McGhee, "Three-dimensional visualization of mission planning and control for the NPS autonomous underwater vehicle," IEEE J., 15(3), 1990, pp. 217–221.
9. I. F. Akyildiz, D. Pompili, and T. Melodia, "Underwater acoustic sensor networks: Research challenges," Ad Hoc Networks, 3(3), 2005, pp. 257–279.
10. L. R. Fodrea and A. J. Healey, "Obstacle avoidance control for the remus autonomous underwater vehicle," IFAC Proc., 36(4), 2003, pp. 103–108.
11. A. Gruneisen and Y. Henriet, 3D model of the Aries autonomous underwater vehicle (AUV), javadoc for dynamics software, AUV mission-visualization workbench, and AUV dynamics control workbench in Matlab. 2002, Available: https://calhoun.nps.edu/bitstream/handle/10945/37248/GruneisenHenrietAuvJavaMatlabWorkbenchesReport.pdf;sequence=1.
12. M. S. M. Aras, M. F. Basar, S. S. Abdullah, F. A. Azis, and F. A. Ali, "Obstacle avoidance system for unmanned underwater vehicle using fin system," International Journal of Science and Modern Engineering, 1(9), 2013, pp. 24–30.
13. Y. Petillot, I. T. Ruiz, and D. M. Lane, "Underwater vehicle obstacle avoidance and path planning using a muli-beam forward looking sonar," IEEE J. Ocean. Eng., 26(2), 2001, pp. 240–251.

519-523

110.

Authors: **Siti Farhana Husin, Mustafa Mamat, Mohd Asrul Hery Ibrahim, Mohd Rivaie**

Paper Title: **Solving Ordinary Differential Equation (ODE) Using Least Square Method: Application of Steepest Descent Method**

Abstract: An ordinary differential equation (ODE) is an equation and techniques that is widely used in mathematical modelling and the most mathematical formulations used in physical laws. One of the useful numerical method to solve non-homogeneous second order linear ODE is the least square method (LSM). However, the LSM requires to the use of the inverse matrix to find the solution. Hence to prevent this difficulties, this paper seeks to solve ODE by using LSM with an application of optimization method using steepest descent (SD) method.

Index Terms: ordinary differential equation, least square method, steepest descent method.

References:

1. G. Zhou and C. Feng, "The steepest descent algorithm without line search for p-Laplacian," Appl. Math. Comput., 224, 2013, pp. 36-45.
2. M. Mamat, A. S. Yee, and I. Mohd, "An efficient algorithm for steepest descent method for unconstrained optimization," J. Sci. Technol. UTHM, 2012, pp. 13-25.
3. Y. Yuan, "A new stepsize for the steepest descent method," Journal of Computational Mathematics, 24(2), 2006, pp. 149–156.
4. Z. Zainal Abidin, M. Mamat, and M. Rivaie, "A new steepest descent method with global convergence properties," AIP Conf. Proc., 1739(1), 2016, pp. 1-8.
5. M. Raydan and B. F. Svaiter, "Relaxed steepest descent and Cauchy-Barzilai-Borwein method," Comput. Optim. Appl., 21(2), 2002, pp. 155-167.
6. R. Johari, M. Rivaie, M. Mamat, and Z. Salleh, "A new scaled steepest descent method for unconstrained optimization with global convergence

524-528

properties," J. Eng. Appl. Sci, 2018, pp. 5442-5445.
7. C.-S. Liu, J.-R. Chang, and Y.-W. Chen, "A modified algorithm of steepest descent method for solving unconstrained nonlinear optimization problems," J. Mar. Sci. Technol., 23(1), 2015, pp. 88–97.
8. Z. A. Zubai'ah, N. 'Aini, S. F. Husin, M. Rivaie, and M. Mamat, "Hybrid BFGS-ZMRI methods with global convergence properties," AIP Conf. Proc., 1974(1), 2018, pp. 1-8.
9. S. F. Husin, M. Mamat, M. A. H. Ibrahim, and M. Rivaie, "A modification of steepest descent method for solving large-scaled unconstrained optimization problems," Int. J. Eng. Technol., 7(3.28), 2018, pp. 1–13.
10. S. F. Husin, M. Mamat, M. A. H. Ibrahim, and M. Rivaie, "New search direction of steepest descent method for large-scaled unconstrained optimization problem," J. Phys. Conf. Ser., 1132(1), 2018, pp. 1-8.
11. M. Bartholomew-Biggs, Nonlinear Optimization with Financial Applications. Boston/ Dordrecht/ London: Kluwer Academic Publishers, 2005.
12. X. Wang, "Method of steepest descent and its applications," IEEE Microw. Wirel. Components Lett., 37996, 2008, pp. 1–3.
13. C. L. Philip Chen and C. Y. Zhang, "Data-intensive applications, challenges, techniques and technologies: A survey on Big Data," Inf. Sci. (Ny)., 275, 2014, pp. 314–347.
14. W. Khadijah, M. Rivaie, M. Mamat, N. Hajar, N. Aini, and Z. Abidin, "An application of conjugate gradient method under strong Wolfe line search for solving unconstrained optimization," International Journal of Engineering and Technology, 7(3.28), 2018, pp. 12–16.
15. N. Shapiee, M. Rivaie, M. Mamat, and P. L. Ghazali, "A new family of conjugate gradient coefficient with application," International Journal of Engineering and Technology, 7(3.28), 2018, pp. 36–43.
16. I. M. Sulaiman, M. Mamat, M. Y. Waziri, and N. S. Amir, "Barzilai-Borwein gradient method for solving fuzzy nonlinear equations," International Journal of Engineering and Technology, 7(3.28), 2018, pp. 80–83.
17. B. P. J and J. V. R. S. P, "Anoptimized architecture for adaptive digital filter," ARPN J. Eng. Appl. Sci., 10(11), 2015, pp. 4964–4970.
18. D. V. M. Chary and J. Amarnath, "Computation of available transfer capability incorporating effect of reactive power and losses using complex neural network," ARPN J. Eng. Appl. Sci., 4(8), 2009, pp. 45–50.
19. N. Austin, P. Senthilkumar, and S. Purushothaman, "Mixed refrigerants suitability analysis using artificial neural networks," ARPN J. Eng. Appl. Sci., 7(5), 2012, pp. 588–592.
20. G. Z. Dennis, Differential Equations with Boundary-Value Problems. Ontario: Nelson Education, 2016.
21. E. B. William and C. D. Richard, Elementary Differential Equations and Boundary Value Problems. New York: Wiley, 2012.

111.

Authors: **Ong-art Inthaniwet, Narongchai Pidokrajt**

Paper Title: **Desana Mahachat Melody "Rabam Desana" in Seven Lanna Provinces, Northern Thailand**

Abstract: The Desana Mahachat Melody comes from a performative text which applies from the specific melody which as an important cultural phenomenon of the seven Lanna Provinces in Northern Thailand. Seven different melodies features identified and analyzed through interviews, documentations, focus group, and interview for 25 respondent and secondary data of historical audio recordings of local religious teachings using the "Rabam Desana" melody style. These results applied to understand about the sustainability of these different melodies within contemporary religious discourse in Northern Thailand.

Index Terms: Desana Mahachat Melody, Lanna Provinces, Northern Thailand, Rabam Desana.

References:

1. P. Adulsillakit, The influential factors of popularity of Mahajati Vessantara Jataka in Lanna. Master thesis, Bangkok: Mahachulalongkornrajavidyalaya University, 2009.
2. B. Benward, and G. Whife, Music in Theory and Practice. Iowa: Brown Company Publishers, 1989.
3. J. P. Burkholder, and D. J. Grout, A History of Western Music: Ninth International Student Edition. New York: W. W. Norton & Company, 2014.
4. S. Chareonsuk, Music in Buddhist in South-East Asia Region. Nakornpratom: Mahidol University, 2005.
5. J. W. Creswell, Educational Research. Nebraska: University of Nebraska-Lincoln, 2012.
6. D. Beard, and K. Gloag, Musicology: The Key Concepts. Abingdon: Routledge, 2004.
7. K. Fyer, Musicology. Nakornphatom: Mahidol University, 2015.
8. R. Kamien, Music: An Appreciation. Ohio: McGraw-Hill Higher Education, 2014.
9. T. Kanteewong, The Melodic Preaching of Mathee Episode from the great Jataka at the Annual Great Preaching Ceremony (Tang Dharma Luang) in Chiangmai, Thailand. Master thesis, Nakornpratom: Mahidol University, 2002.
10. J. Kunst, Musicologica: A Study of the Nature of Ethno-Musicology, Its Problems, Methods, and Representative Personalities. Amsterdam: Indisch Instituut, 1950.
11. P. Leosiripong, Analyses of Musical Elements and Poetic Forms of the Verses in Phleng Look Thung Kham Muang Popular Songs which are based on "The Old Saw Traditional Songs in the upper Northern region of Thailand: Case Study on the works of the Jaang Saw Traditional Musicians or those who have well studied the tradition. Bangkok: Department of Cultural Promotion, 2013.
12. P. Leosiripong, The Saw Vocal Music Traditional of the Khon Muang in Lanna,North Thailand. Thesis, Quezon City: University of the Philippines, 1989.
13. G. List, "The reliability of transcription," Ethnomusicology, 1, 1974, pp. 353-77.
14. A. P. Merriam, and V. Merriam, The Anthropology of Music. Illinois: Northwestern University Press, 1964.
15. H. Myers, and S. Sadie, Ethnomusicology: Historical and Regional Studies. New York: W. W. Norton & Company, 1993.
16. S. Nandadhammiko, A study of Value of the Mahajati Preaching in Lanna. Master thesis, Bangkok: Mahachulalongkornrajavidyalaya University, 2016.

529-532

112.

Authors: **Sivaraos, M.J. Raguvaran, Aidy Ali, M. F. Abdullah, D. Sivakumar, M.A.M Ali, A. Hambali, Ms. Salleh, K. Umesh**

Paper Title: **Investigation of Tyre Pressure Drop Phenomenon Using Specially Designed Real-Time Data Mining and Storage System**

Abstract: Tyre pressure plays an important role in ensuring safe operation and performance of a motor vehicle. Improper monitoring of tyre pressure always results in reduction of gas mileage, tyre life, vehicle safety and performance. Studies reflects that, properly inflated tyres can increase tyre life span up to 20% which is equivalent to nine months of its life span, save fuel from 4% to 10%, increase braking efficiency up to 20%, lightens steering system and ease self-steer. Monitoring proper tyre pressure using manual gauges are less effective as they tend to provide slight gap at the valve for air leakage during pressure checking. Therefore, a device called tyre pressure monitoring system (TPMS) is used in the current research to efficiently monitor air pressure and temperature in the tyre of a motor vehicle which then generates a signal indicative of the pressure and temperature in each of the tyre thus increasing the monitoring system of a vehicle and its safety. This paper presents a "cost-effective" real-time data plotting application based on LabVIEW graphical user interface using a TPMS device. Notably, the entire system is tailored to the situation whereby with the existence of this interface; tyre researches and scientist would able to effectively monitor and

533-537

simultaneously plot the tyre pressure and temperature data even at dynamic condition.

Keywords: Data mining, TPMS, tyre presure, tyre pressure drop, tyre safety, tyre temperature.

References:

1. S. K. Purwar, "Automatic tyre inflation system," International Research Journal of Engineering and Technology, 4(4), 2017, pp. 2384-2387.
2. T. J. S. Sivarao, and M. Warikh, "Engineering of tyre pressure controlling device: An invention towards successful product development," International Journal of Basic and Applied Sciences, 9(9), 2009, pp. 45-48.
3. B. Li., S. Bei., and J. Zhao, "Research method of tyre contact characteristic based on modal analysis," Mathematical Problem in Engineering, 2017, 2017, pp. 1-9.
4. J. Ejsmont, S. Taryma, G. Ronowski, and B. S. Zurek, "Influence of temperature on the tyre rolling resistance," International Journal of Automotive Technology, 19(1), 2018, pp. 45-54.
5. T. Tang, D. Johnson, R. E. Smith, and S. D. Felicelli, "Numerical evaluation of the temperature field of steady-state rolling tyres," Applied Mathematical Modelling, 38, 2014, pp. 1622-1637.
6. J. R. Cho, H. W. Lee, W. B. Jeong, K. M. Jeong, and K. W. Kim "Numerical estimation of rolling resistance and temperature distribution of 3-D periodic patterned tire," International Journal of Solids and Structures, 50(1), 2013, pp. 86-96.
7. Y. Li, S. Zuo, L. Lei, X. Yang, and X. Wu, "Analysis of impact factors of tire wear," Journal of Vibration and Control, 18(6), 2011, pp. 833-840.
8. K. Yokota, E. Higuchi, and M, Kitagawa., "Estimation of the tire temperature distribution and rolling ressistance under running conditions including environmental factors," No. 2012-01-0796. SAE Technical Paper, 2012, pp. 0796-0807.
9. P. S. Anoop, V. Sugumaran, and H. M. Praveen, "Implementing K-Star algorithm to monitor tyre pressure using extracted statistical features from vertical wheel hub vibrations," Indian Journal of Science and Technology, 9(47), 2016, pp. 1-7.
10. K. Hopping, and K. Augsburg, "Dynamic tyre pressure control system – Analysis of the effect on longitudinal vehicle dynamics and fuel consumption," 58th Ilmenau Scientific Colloquium, 2014, pp. 1-12.
11. G. Mohapatra, "Design and implementation of diaphragm type pressure sensor in a direct tyre pressure monitoring system (TPMS) for automotive safety applications," International Journal of Engineering Science and Technology, 3(8), 2011, pp. 6514-6524.
12. S. Velupillai, and L. Guvenc, "Applications of control – Tyre pressure monitoring," IEEE Control Systems Magazine, 27(6), 2007, pp. 22-25.
13. Advanced Vehicle Electronic Technologies Co. Ltd., Tire pressure monitoring system AVE TPMS. Available: https://manualzz.com/doc/7311860/ave-user-manual---hilltop-tw.
14. R. Tamada, and M. Shiraishi, "Pridication of uneven tyre wear using wear progress simulation," Tire Science and Technology, 45(2), 2017, pp. 87-100.
15. B. Hamed, "Application of a LabVIEW for real-time control of ball and beam system," IACSIT International Journal of Engineering and Technology, 2(4), 2010, pp. 401-407.
16. R. Nersi, G. P. S. Arneja, K. Bansal, and M. M. Noel, "Heart sound analysis using LabVIEW," Journal of Theoretical and Applied Information Technology, 46(2), 2012, pp. 1029-1033.
17. B. Mehta, D. Rengarajan, and A. Prasad, "Real time patient tele-monitoring system using LabVIEW," International Journal of Scientific and Engineering Research, 3(4), 2012, pp. 1-11.
18. B. Hemalatha, A. V. Juliet, and N. Natarajan, "Boiler level control using LabVIEW," International Journal of Computer Applications, 1(17), 2010, pp. 85-88.
19. National Instruments, LabVIEW user manual, Part number: 320999E-01, April 2003 edition. Available: http://www.ni.com/pdf/manuals/320999e.pdf.
20. H. Mengxi, L. Ziran, and X. Yuanming, "The interior temperature distribution measurement in a rolling tire," International Conference on Mechanical Engineering and Material Science, 2012, pp. 311-313.
21. A. Hackl, C. Scherndl, W. Hirschnerg, and C. Lex, "experimental validation of various temperature modells for semi-physical tyre model approaches," IOP Conference Series: Materials Science and Engineering, 252(1), 2017, pp. 1-8.
22. R. D. Fogal, Tyre sealant composition, US Patent 7,807,732 B2, 2010.
23. T. Okamatsu, Tyre puncture sealant. Yokohama Rubber Co. Ltd. Kanagawa 254-8601 (JP), EP Patent 1,825,991 B1, 2014.

113.

Authors: **Sivaraos, Leon. S, Aidy Ali, M. F. Abdullah, Amarnath**

Paper Title: **Systematic Niche Design Approach in Developing Dancing Water Nozzle for Water Fountain**

Abstract: In the waterfountain branch exist a technology gap in the dancing waterfountain niche. To close this niche, a systematic niche design approach is needed to bring out a successful product in less time to close this gap efficiently. This paper shows a suggested systematic design approach on the example of a new dancing waternozzle with an easy control unit. The design methodology shows the product specification, conceptual design, detailed design and a validation using FEA tool and Rapid prototyping. The design approach uses different methods for a fast design generating. The design approach is explained in every step with an example of the dancing waterfountain. A dancing waternozzle without a complex control unit is developed. The detailed design of the dancing waternozzle is made successfully with this approach but to fulfil all requirements to this design further development on the design is needed.

Index Terms: Dancing waterfountain, niche product, product design, systematic design.

References:

1. M. J. Yoo, and I. K. Lee, "Creating musical-fountain shows," IEEE Computer Graphics and Applications, 29(5), 2009, pp. 6-13.
2. S. Shakerin, "Water fountains blend art and engineering: A resource for engineering education," American Society for Engineering Education Annual Conference and Education, 2004, pp. 1-16.
3. N. Geren, Ç. Sarıgül, and M. Bayramoğlu, "Systematic mechanical design approach for a flexible printed circuit board assemblies (PCBA) rework cell: Part II–conceptual design of soldering and desoldering system," Soldering and Surface Mount Technology, 24(3), 2012, pp. 151-166.
4. G. Alexandridis, I. Symeonidou, D. Tzetzis, K. Kakoulis, and P. Kyratisis, "An integrated workflow of biomimetric design, material selection and computer aided engineering," Academic Journal of Manufacturing Engineering, 144(4), 2016, pp. 12-18.
5. Q. Ma, L. Meng, L. Song, P. Xue, M. Zhou, and Y. Wang, "A reuse method of mechanical product development knowledge based on CAD model semantic markup and retrieval," Academic Journal of Manufacturing Engineering, 16(1), 2018, pp. 11-18.
6. G. Pahl, and W. Beitz, Engineering design: A systematic approach. Berlin: Springer Science and Business Media, 2013.
7. J. D. Booker, R. Lock, S. Williamson, and J. F. Gómez, "Effective practices for the concept design of electromechanical systems," Journal of Engineering, Design and Technology, 14(3), 2016, pp. 489-506.
8. S. Graham, "Rapid prototyping: A key to fast tracking design to manufacture," Assembly Automation, 20(4), 2000, pp. 291-294.

538-542

114.

Authors: **Umi Nadiah Nor Ali, Norazman Mohamad Nor, Maidiana Othman, Vikneswaran Munikanan**

Paper Title: **Energy Savings Performance of Heat Resistance Wall Panel (HRWP) System**

Abstract: This study investigated the thermal resistant performance of wall panel (Heat Resistant Wall Panel) with embedded PVC pipe and water flowing in it.The flowing water concept that was applied in this study is regulated from

543-547

rainwater harvesting system. This is to minimize the electricity and water bills while reducing the indoor building temperature. By observing the results, it shows that the internal surface temperature of the heat resistant wall panel is 3°C lower than conventional building wall. In addition, a comparative analysis of energy saving costs has been calculated to identify energy efficiency for typical building with air-conditioning system and typical building with the Heat Resistant Wall Panel which resulted about 33% of cost savings.

Index Terms: Energy saving, green building, heat resistant wall panel, sustainable system.

References:

1. M. Z. Suzaini, E. M. Nik, M. Norhayati, and S. Raha, "Malaysia's rising GHG emissions and carbon 'lock-in' risk: A review of Malaysian building sector legislation and policy," Journal of Surveying, Construction and Property, 6(1), 2015, pp. 1-13.
2. United States Environmental Protection Agency, Overview of greenhouse gases. 2017, Available: https://www.epa.gov/ghgemissions/overview-greenhouse-gases.
3. J. S. Hassan, R. M. Zin, M. Z. A. Majid, S. Balubaid, and M. R. Hainin, "Building energy consumption in Malaysia: An overview," Jurnal Teknologi, 70(7), 2014, pp. 33-38.
4. Energy Commission, National energy balance. 2013, Available: http://meih.st.gov.my/documents/10620/167a0433-510c-4a4e-81cd-fb178dcb156f.
5. I. Z. Bribián, A. A. Usón, and S. Scarpellini, "Life cycle assessment in buildings: State-of-the-art and simplified LCA methodology as a complement for building certification," Building and Environment, 44(12), 2009, pp. 2510-2520.
6. K. Livingstone, Cities' contribution to climate change. 2007, Available: http://siteresources.worldbank.org/INTUWM/Resources/340232-1205330656272/4768406-1291309208465/PartIII.pdf.
7. A. D. T. L. Mun, The development of GBI Malaysia (GBI). 2009, Available: http://new.greenbuildingindex.org/Files/Resources/GBI%20Documents/20090423%20-%20The%20Development%20of%20GBI%20Malaysia.pdf.
8. A. A. Azlina, M. Kamaludin, E. S. Z. E. Abdullah, and A. Radam, "Factors influencing household end-use electricity demand in Malaysia," Advanced Science Letters, 22(12), 2016, pp. 4120-4123.
9. Z. Zakaria, and S. Shamsuddin, "Electricity consumption and economic activity in Malaysia: Co-integration, causality and assessing the forecasting ability of the vector error correction model," International Journal of Energy Economics and Policy, 6(4), 2016, pp. 706-713.
10. J. Vorster, and R. Dobson, "Sustainable cooling alternatives for buildings," Journal of Energy in Southern Africa, 22(4), 2011, pp. 48-66.
11. C. Karmann, S. Schiavon, and F. Bauman, "Thermal comfort in buildings using radiant vs. all-air systems: A critical literature review," Building and Environment, 111, 2017, pp. 123-131.
12. O. B. Kazanci, Low temperature heating and high temperature cooling in buildings. PhD thesis, Copenhagen: Technical University of Denmark, 2016.
13. International Organization for Standardization (ISO), ISO 11855-2: Building environment design - Design, dimensioning, installation and control of embedded radiant heating and cooling systems. Geneva: ISO, 2012.
14. B. Olesan, "Radiant floor cooling systems," ASHRAE Journal, 50(9), 2008, pp. 16-16.
15. J. Dieckmann, K. McKenny, and B. James, "Radiant floor cooling in practice," ASHRAE Journal, 51(11), 2009, pp. 70-72.
16. J. Johnsson, and L. Westerlund, Radiant floor cooling systems: A measurement and simulation study. Master thesis, Göteborg: Chalmers University of Technology, 2012.
17. B. Robert, B. W. Olesan, and K. W. Kim, "History of radiant heating and cooling systems," ASHRAE Journal, 52(2), 2010, pp. 50-55.
18. U. N. Ali, N. M. Nor, M. A. Yusuf, M. Othman, and M. A. Yahya, "Application of water flowing PVC pipe and EPS foam bead as insulation for wall panel," AIP Conference Proceedings, 1930(1), 2018, pp. 1-8.
19. M. Vikneswaran, M. N. Norazman, and J. Y. Ooi, "The comparison of thermal resistance between clay brick wall and sand brick wall for Malaysian climate," Journal of Scientific Research and Development, 2(13), 2015, pp. 64-68.
20. N. N. Umi, M. N. Norazman, N. M. Daud, M. A. Yusof, M. A. Yahya, and M. Othman, "Heat conductivity resistance of concrete wall panel by water flowing in different orientations of internal PVC pipe," IOP Conference Series: Earth and Environmental Science, 140(1), 2018, pp. 1-.
21. A. Zhou, K. W. Wong, and D. Lau, "Thermal insulating concrete wall panel design for sustainable built environment," Scientific World Journal, 12, 2014, pp. 1-12.

115.

Authors: **Norshahriah Wahab, NorAsiakin Hasbullah, Nurulzahrah Zainudin, Noor Afiza Mat Razali, Yuhanim Yahaya, Syed Nasir Alsagoff, Nurul Aini Kasran**

Paper Title: **An Approach to Mixed Reality and Massive Open Online Courses (MOOC) in Learning the Military Decision Making Environment**

Abstract: In teaching and learning of making the decision in military environment require an efficient and effective interaction and control in order for learners to actively participate in conducting an operation. In this day and age, people are exposed to mixed reality concept in line with the growth of software application technology where people started to demand on their needs for applications used. In fact, software application has shown a rapid development in computing technology world regarding processing power, memory capacity and battery life simultaneously with the new technology supplied such as improvement of the connectivity, external peripherals, GPS and location-based services. This paper proposed the implementation of mixed reality technology specifically on 3 Dimensional (3D) geospatial terrain and Massive Open Online Courses (MOOC) as the tool and platform to conduct the learning of military decision making in an operation. The research was carried out to determine the appropriate elements and features of mixed reality for this application consists of virtual elements; mixed reality space and interaction; reaction and interaction within 3D mixed reality object. The technology of mixed reality is considered to provide an effective and efficient 3D map that learners can interact and control for military operation using the platform of MOOC.

Index Terms: Massive Open Online Courses (MOOC), military decision making, mixed reality, 3 Dimensional (3D).

References:

1. M. Monmonier, How to Lie with Maps. University of Chicago Press, 2014.
2. P. Doyle, and M. R. Bennett, Fields of Battle: Terrain in Military History. Berlin: Springer Science and Business Media, 2013.
3. E. P. Istomin, A. G. Sokolov, V. M. Abramov, G. G. Gogoberidze, and A. A. Fokicheva, "Methods for external factors assessing within geoinformation management of territories," 15th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, 2015, pp. 1-8.
4. M. Kersten-Oertel, P. Jannin, and D. L. Collins, "The state of the art of visualization in mixed reality image guided surgery," Computerized Medical Imaging and Graphics, 37(2), 2013, pp. 98-112.
5. K. Laver, S. George, S. Thomas, J. E. Deutsch, and M. Crotty, "Virtual reality for stroke rehabilitation," Stroke, 43(2), 2012, pp. e20-e21.
6. S. K., Ong, and A. Y. C. Nee, Virtual and Augmented Reality Applications in Manufacturing. Berlin: Springer Science & Business Media, 2013.
7. F. Biocca, and M. R. Levy, Communication in the Age of Virtual Reality. Abingdon: Routledge, 2013.
8. K. Laver, S. George, S. Thomas, J. E. Deutsch, and M. Crotty, "Virtual reality for stroke rehabilitation," Stroke, 43(2), 2012, pp. e20-e21.
9. A. R. Royalty, US Military Advisors in Iraq: A Phenomenological Research Study on the Role of National Culture on Tactical Decision-making

during Wartime. PhD thesis, Washington DC: George Washington University, 2015.
10. F. G. Martin, "Will massive open online courses change how we teach?," Communications of the ACM, 55(8), 2012, pp. 26-28

116.

Authors: **Vikneswaran Munikanan, Aye Aye Mon, Nik Noorul Shakira Mohamed Shakrin, Mohd Asri Md Nor, Muhamad Azani Yahya, Mohammed Alias Yusof, Florence Lim Jing En**

Paper Title: **Alternative Water Resources in UPNM**

Abstract: Water crisis is become a global issue in recent decade. Alternative water resources are an important method to mitigate the issue of water shortage. The aim of this research is to identify and compare the alternative water resources in UPNM campus. The study of water catchments in UPNM campus was conducted to examine the amount of water resources available that can be developed for water supply. The water quality of the stated alternative resources was tested and analysed to propose new alternative water resources for UPNM campus. Rainwater from the pervious area in UPNM, multipurpose green field and natural water from Lestari area surface water collection area were selected for raw water quality standard. To justify the quality of water, physical, chemical and biological assessment were performed. Water quality from each parameter is determined based on American Public Health Association Method (APHA).Peak flowrate of water discharged from both areas were determined using Rational method. Based on the analysis from the study, Lestari area without rain shown a better result whereby WQI for this location is 88.59 compared to UPNM multipurpose green field area which is only 71.68 and a result of 61.17 of WQI for Lestari area with rainwater.

Index Terms: Alternative water resources, rational method, water quality, water supply.

552-557

References:

1. Z. Li, F. Boyle, and A. Reynolds, "Rainwater harvesting and greywater treatment systems for domestic application in Ireland," Desalination, 260, 2010, pp. 1–8.
2. W. H. Mahmoud, N. A. Elagib, H. Gaese, and J. Heinrich, "Rainfall conditions and rainwater harvesting potential in the urban area of Khartoum," Resources, Conservation and Recycling, 91, 2014, pp. 89–99.
3. M. A. Asmoe, Feasibility study on groundwater extraction in Sungai Besi Camp. Bachelor thesis, Kuala Lumpur: Universiti Pertahanan Nasional Malaysia, 2010.
4. American Public Health Association (APHA), Standard Methods for the Examination of Water and Waste Water. Washington DC: APHA, 2012.
5. N. A. Zakaria, A. A. Ghani, R. Abdullah, L. M. Sidek, A. H. Kassim, and A. Ainan, MSMA–A new urban stormwater management manual for Malaysia. 2004, Available: http://redac.eng.usm.my/html/publish/2004_06.pdf.
6. R. Kaushik, R. Balasubramanian, and H. Dunstan, "Microbial quality and phylogenetic diversity of fresh rainwater and tropical freshwater reservoir," Plos One, 9(6), 2014, pp. 1-10.

117.

Authors: **Azam Che Idris, Mohd Rashdan Saad, Mohd Rosdzimin Abdul Rahman, Fakroul Ridzuan Hashim, Konstantinos Kontis**

Paper Title: **Experimental Validation of Artificial Neural Network (ANN) Model for Scramjet Inlet Monitoring and Control**

Abstract: A hypersonic flight vehicle, viewed as an engineering system, must have a real-time monitoring and control of its performance, in order for it to be safe and practical for operation. The scramjet engine is the most suitable for hypersonic flow regime and its performance depends mostly on its inlet. There are multiple strategies to measure the performance of a scramjet inlet but they are limited to on-ground operations only. A number of empirical relations exist to easily calculate the scramjet inlet performance using only its internal throat Mach number but they are somewhat hit-and-miss. Using Artificial Neural Network (ANN) algorithm and data from the literature, we investigated the optimum ANN structures that can be used to model scramjet inlet performance. The optimum ANN model is then tested and validated against our own experimental measurement of our generic scramjet inlet. The optimum ANN model with 10-nodes in a single hidden layer was able to match perfectly with our experimental data.

Index Terms: Artificial neural network, hypersonic, SBLI, scramjet, shockwave.

558-563

References:

1. K. N. Roberts and D. R. Wilson, "Analysis and design of a hypersonic scramjet engine with a transition Mach number of 4.00," 47th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, 2009, pp. 5–8.
2. R. S. Fry, "A century of ramjet propulsion technology evolution," Journal of Propulsion and Power, 20, 2004, pp. 27–58.
3. P. Gruhn and A. Gülhan,"Experimental investigation of a hypersonic inlet with and without sidewall compression," Journal of Propulsion and Power, 27, 2011, pp. 718–729.
4. J. Häberle and A. Gülhan, "Investigation of two-dimensional scramjet inlet flowfield at Mach 7," Journal of Propulsion and Power, 24, 2008, pp. 446–459.
5. O. M. Hohn and A. Gülhan, "Experimental investigation on the influence of sidewall compression on the flowfield of a scramjet inlet at Mach 7," 17th AIAA International Space Planes and Hypersonic Systems and Technologies Conference, 2011, pp. 1-17.
6. O. Hohn and A. Gulhan, "Experimental investigation of the influence of yaw angle on the inlet performance at Mach 7," 48th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, 2010, pp. 1-16.
7. H. Tan, S. Sun, and H. Huang,"Behavior of shock trains in a hypersonic inlet/isolator model with complex background waves," Experiments in Fluids, 53, 2012, pp 1647–1661.
8. A.C. Idris, M. R. Saad, H. Zare-Behtash, and K. Kontis, "Luminescent measurement systems for the investigation of a scramjet inlet-isolator," Sensors, 14, 2014, pp. 6606–6632.
9. E. T. Curran and R. R. Craig, The use of stream thrust concepts for the approximate evaluation of hypersonic ramjet engine performance. 1973, Available: https://apps.dtic.mil/dtic/tr/fulltext/u2/769481.pdf.
10. W. H. Heiser and D. T. Pratt,Hypersonic Airbreathing Propulsion. Washington: AIAA, 1994.
11. A. Matthews, T. Jones, and T. Cain, "Design and test of a hypersonic isentropic-spike intake with aligned cowl," Journal of Propulsion and Power, 21, 2005, pp. 838–843.
12. A. Matthews and T. Jones, "Design and test of a modular waverider hypersonic intake," Journal of Propulsion and Power, 22, 2006, pp. 913–920.
13. R. C. Haefeli and H. Bernstein, Performance of Separation Nose Inlets at Mach Number 5.5. Washington: National Advisory Committee for Aeronautics, 1953.
14. H. Bernstein and R.C. Haefeli, Investigation of Pressure Recovery of a Single-Conical-Shock Nose Inlet at Mach Number 5.4. Washington: National Advisory Committee for Aeronautics, 1953.
15. H. Bernstein and R. C. Haefeli, Performance of Isentropic nose Inlets at Mach number of 5.6. Washington: National Advisory Committee for

Aeronautics, 1954.
16. O. M. Hohn and A. Gülhan, "Analysis of a three-dimensional, high pressure ratio scramjet inlet with variable internal contraction," 18th AIAA/3AF International Space Planes and Hypersonic Systems and Technologies Conference, 2012, pp. 1-18.
17. F. Billig, M. Lasky, and R. Orth, "Effects of thermal compression on the performance estimates of hypersonic ramjets," Journal of Spacecraft and Rockets, 5, 1968, pp. 1076–1081.
18. P. Waltrup, F. Billig, and R. Stockbridge, "Engine sizing and integration requirements for hypersonic airbreathing missile applications," AGARD Ramjets and Ramrockets for Mil. Appl., 41, 1982, p (SEE N82-32256 22-99).
19. K. Tani, T. Kanda, and K. Kudo, "Aerodynamic performance of scramjet inlet models with a single strut," Journal of Propulsion and Power, 22, 2006, pp. 905–912.
20. M. K. Smart, "How much compression should a scramjet inlet do?" AIAA Journal, 50, 2012, pp. 610–619.
21. S. O'Byrne, S. Wittig, J. Kurtz, Y. Krishna, C. Rodriguez, M. Aizengendler, and J. Davies, "Diode laser sensor for scramjet inlets," Canberra: Australian Defence Force Academy, 2011.
22. J. Kurtz, M. Aizengendler, Y. Krishna, P. Walsh, and S. B. O'Byrne, "Flight test of a rugged scramjet-inlet temperature and velocity sensor," 53rd AIAA Aerospace Sciences Meeting, 2015, pp. 1-18.
23. M. K. Smart and M. R. Tetlow, "Orbital delivery of small payloads using hypersonic airbreathing propulsion," Journal of Spacecraft and Rockets, 46, 2009, pp. 117–125.
24. D. Van Wie and D. Ault, "Internal flowfield characteristics of a scramjet inlet at Mach 10," Journal of Propulsion and Power, 12, 1996, pp. 158–164.
25. S. Molder, "Performance of three hypersonic inlets," 22nd International Symposium on Shock Waves, 1999.
26. J. C. Turner and M. K. Smart, "Application of inlet injection to a three-dimensional scramjet at Mach 8," AIAA Journal, 48, 2010, pp. 829–838.
27. Y. Zhang, H. J. Tan, S. Sun, H. Chen, and C. H. Li, "Experimental and numerical investigation of a fluidically variable hypersonic inlet," AIAA Journal, 55(8), 2017, 2597-2606.
28. A. K. Flock and A. Gülhan, "Experimental and numerical performance analysis of a self-starting three-dimensional scramjet intake," Journal of Propulsion and Power, 33(6), 2017, 1570-1580.
29. J. Teng and H. Yuan, "Variable geometry cowl sidewall for improving rectangular hypersonic inlet performance," Aerospace Science and Technology, 42, 2015, pp. 128–135.
30. A. Govinda, M. K. K. Devaraj, Y. Singh, N. Thakor, V. R. Kulkarni, S. N. Omkar, and G. Jagadeesh, "Design of optimized two-dimensional scramjet nozzle contour for hypersonic vehicle using evolutionary algorithms," 30th International Symposium on Shock Waves, 2017, pp. 119–124.
31. C. D. Ghodke, J. Pranatharthikaran, G. J. Retaureau, and S. Menon, "Numerical and experimental studies of flame stability in a cavity stabilized hydrocarbon-fueled scramjet," 17th AIAA International Space Planes and Hypersonic Systems and Technologies Conference, 2011, pp. 1-16.
32. Q. Chen, L. H. Chen, H. B. Gu, X. Y. Zhang, and P. Wang, "Study on judgment method of combustion mode on dual-mode scramjet," Procedia Engineering, 67, 2013, pp. 147–154.
33. J. Gao, L. Dou, and P. Su, "Multi-model switching control of hypersonic vehicle with variable scramjet inlet based on adaptive neural network," 12th World Congress on Intelligent Control and Automation, 2016, pp. 1714–1719.
34. C. K. Ma, Y. H. Lee, A. Z. Awang, W. Omar, S. Mohammad, and M. Liang, "Artificial neural network models for FRP-repaired concrete subjected to pre-damaged effects," Neural Computing and Applications, 2017, pp. 1–7.
35. H. Nozari and S. Azadi, "Experimental evaluation of artificial neural network for predicting drainage water and groundwater salinity at various drain depths and spacing," Neural Computing and Applications, 2017, pp. 1–10.
36. H. R. Aidinlou and A. Nikbakht, "Intelligent modeling of thermohydraulic behavior in solar air heaters with artificial neural networks," Neural Computing and Applications, 2017, pp. 1–15.
37. S. Elkatatny, Z. Tariq, M. Mahmoud, A. Abdulraheem, and I. Mohamed, "An integrated approach for estimating static Young's modulus using artificial intelligence tools," Neural Computing and Applications, 2018, pp. 1–13.
38. S. Russell and P. Norvig, Artificial Intelligence: A Modern Approach. New Jersey: Prentice Hall, 2010.
39. R. Rojas, Neural Networks: A Systematic Introduction. Berlin: Springer Verlag, 1996.

118.

Authors: **Aidy Ali, M. K. Faidzi, M. H., Khairul H. Kamarudin, M. R. Saad**

Paper Title: **Finite Element Analysis of Fretting Fatigue of Bolted Joints**

Abstract: In this study, a simulation is conducted to determine the stress distribution near the contact surface of the bolted joints and its interactions by Solidwork and ANSYS workbench as fretting fatigue is frequently being described as the main reason for bolts' failure. The simulation result is compared with well published works, and it showed a strong in agreement. The bolt holes are is the most critical part and likely to fail rapidly during the time cycle compared to other parts.

Index Terms: Fatigue simulation, FEM.

References:

1. National Transportation Safety Board, Aircraft accident report: Apache Airlines Inc. DeHavilland DH-104-7AXC, N4922V. 1971, Available: https://www.ntsb.gov/investigations/AccidentReports/Reports/AAR7219.pdf.
2. C. Rose, "The collapse of the Silver Bridge," West Virginia Historical Society Quarterly, 15(4), 2001, pp. 1.
3. B. Atzori, P. Lazzarin, and M. Quaresimin, "A re-analysis on fatigue data of aluminium alloy bolted joints," International Journal Fatigue, 19(7), 1997, pp. 579-588.
4. H. R. Maleki and B. Abazadeh, "Fretting Fatigue behavior of bolted single lap joints of aluminum alloys," World Academy of Science, Engineering and Technology, 6(8), 2012, pp. 1509-1511.
5. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Mechanical properties of laminated bamboo strips from Gigantochloa Scortechinii/polyester composites," Materials and Design, 57, 2014, pp. 551-559.
6. K. A. Mohammad, M. S. Salit, E. S. Zainudin, N. I. Zahari, and A. Ali, "Fatigue life prediction of austenitic type 316L stainless steel using ABAQUS," Advanced Materials Research, 911, 2014, pp. 59-462.
7. M. Sivarao, A. Ali, and L. S. Teng, "Enhanced tensile properties of stone wool fiber-reinforced high density polyethylene (HDPE) composites," Materials Testing, 56(2), 2014, pp. 150-154.
8. M. S. Salwani, B. B. Sahari, A. Ali, and A. A. Nuraini, "The effect of automotive side member filling on car frontal impact performance," Journal of Mechanical Engineering and Sciences, 6, 2014, pp. 873-880.
9. K. Rassiah, M. M. M. Ahmad, A. Ali, and H. Sihombing, "The effect of bamboo strip on the impact and hardness performances of unsaturated polyester composites," Journal of Applied Science and Agriculture, 10(8), 2015, pp. 8-12.
10. K. Rassiah, M. M. H. M. Ahmad, A. Ali, and M. M. Tamizi, "The influence of laminated layer and thickness gigantochloa scortechinii bamboo strips on mechanical performance of unsaturated polyester composites," Life Science Journal, 12(2), 2015, pp. 182-188.
11. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Ballistic impact performance of the layered and laminated composites: A reviews," Pertanika Journal Science and Technology, 23(2), 2015, pp. 177-185.
12. M. S. Salwani, A. Ali, B. B. Sahari, and A. A. Nuraini, "Effect of automotive side member materials on the head injury criteria (HIC) and ches severity index (CSI) of adult passenger," International Journal of Engineering and Technologies, 7, 2016, pp. 47-59.
13. M. Y. Soleha, K. K. Ong, W. Y. W. M. Zin, A. Mansor, F. Anwar, I. N. Azowa, S. A. S. M. Shafiq, A. Shah, N. Aisyah, A. Aidy, K. A. K. Z., and C. C. Teoh, "Characterization of raw and thermally treated alum sludge," Key Engineering Materials, 701, 2016, pp. 138-142.
14. S. Subramonian, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and A. Rajaizam, "Effect of fiber loading on the mechanical properties of

bagasse fiber–reinforced polypropylene composites," Advances in Mechanical Engineering, 8(8), 2016, pp. 1–5.
15. K. Rassiah, M. M. H. M. Ahmad, and A. Ali, "Effect on mechanical properties of rice husk/e-glass polypropylene hybrid composites using sodium hydroxide (NaOH)," Journal of Advances in Technology and Engineering Research, 2(4), 2016, pp. 105-112.
16. M. J. Suriani, A. Ali, A. Khalina, and S. M. Sapuan, "Fatigue life estimation of kenaf reinforced composite materials by non-destructive techniques," Universal Journal of Materials Science, 4(4), 2016, pp. 88-96.
17. S. A. Ibraheem, S. S. Sreenivasan, K. Abdan, S. A. Sulaiman, A. Ali, and D. L. A. A. Majid, "The effects of combined chemical treatments on the mechanical properties of three grades of sisal," BioResources, 11(4), 2016, pp. 8968-8980.
18. A. Ali, K. Rassiah, F. Othman, L. H. Pueh, T. T. Earn, M. S. Hazin, and M. M. H. M. Ahmad, "Fatigue and fracture properties of laminated bamboo strips from gigantochloa scortechinii / polyester composites," BioResources, 11(4), 2016, pp. 9142-9153.
19. M. Sivarao, A. Ali, M. Amran, L. D. Sivakumar, S. Salleh, and A. Rajaizam, "Performance evaluation of reworked weld joints," International Journal of Engineering and Technologies, 9, 2016, pp. 47-59.
20. K. Rassiah and A. Ali, "A study on mechanical behaviour of surface modified rice husk/polypropylene composite using sodium hydroxide," International Journal of Engineering and Technologies, 8, 2016, pp. 72-82.
21. N. A. Halim, A. Ali, Z. H. Z. Abidin, A. B. Ahmad, and A. Z. Sulaiman, "Thermal analysis of organically modified Ca montmorillonite using DSC and TSC techniques," Journal of Thermal Analysis and Calorimetry, 128(1), 2017, pp. 135-140.
22. K. Rassiah, M. M. H. M. Ahmad, A. Ali, A. H. Abdullah, and S. Nagapan, "Mechanical properties of layered laminated woven bamboo gigantochloa scortechinii / epoxy composites," Journal of Polymer and Environment, 26(4), 2018, pp. 1328-1342.
23. A. Ali , W. K. Ng, F. Arifin, K. Rassiah, F. Othman, M. S. Hazin, and M. M. H. M. Ahmad, "Development and mechanical characterization of green bamboo composites," AIP Conference Proceedings, 1930, 2018, pp. 1-6.
24. A. Ali, N. W. Kuan, F. Arifin, K. Rassiah, F. Othman, S. Hazin, and M. H. M. Ahmad, "Fracture properties of hybrid woven bamboo/woven e-glass fiber composites," International Journal of Structural Integrity, 9(4), 2018, pp. 491-519.
25. A. Ali, R. Adawiyah, K. Rassiah, W. K. Ng, F. Arifin, F. Othman, M. S. Hazin, M. K. Faidzi, M. F. Abdullah, and M. M. H. M. Ahmad, "Ballisctic impact properties of woven bamboo-woven e glass- unsaturated polyester hybrid composites," Defense Technology, 9(4), 2018, pp. 491-519.
26. M. K. F. M. Paudzi, M. F. Abdullah, and A. Ali, "Fatigue analysis of hybrid composites of kenaf/kevlar fibre reinforced epoxy composites," Jurnal Kejuruteraan, 1(7), 2018, pp. 1-8.
27. M. K. Faidzi, A. K. Hamizi, M. F. Abdullah, M. A. Aliimran, K. Z. K. Ahmad, R. N. Othman, and A. Ali, "Fatigue crack growth behaviour of sandwiched metal panel of aluminium and mild steel under constant amplitude loading," International Journal of Engineering and Technology UAE, 7(4.33), 2018, pp. 362-366.
28. A. Ali, B. B. Sahari, and M. S. Salwani, "Simple durability programming integrated with LSDYNA for automotive applications," International Journal of Engineering and Technology UAE, 7(4.33), 2018, pp. 299-306.

119.

Authors: **Noor Afiza Mat Razali, Nurjannatul Jannah Aqilah Md Saad, Hasmeda Erna Che Hamid, Muhammad Ramzul Abu Bakar, Khairul Khalil Ishak, Nor Asiakin Hasbullah, Norulzahrah Mohd Zainudin, Suzaimah Ramli, Norshahriah Wahab**

Paper Title: **Volunteer Management System for Disaster Management**

Abstract: Based on the National Security Council (NSC) Directive No. 20 that concern in coordinating responsible agencies and committee, the Malaysian government have established a disaster management coordination and preparedness agency. During disaster relief and operation, volunteer involvement also can be an important part of disaster relief. Researchers are proposing the usage of the systematic volunteer management system (VMS) to manage volunteer activities on the scene by optimizing volunteer involvement. This study provides an overview of VMS and its challenges, focusing on the process of volunteers' recruitment and management of volunteers' personal information that needed to be handled according to the information security concept which is privacy, security, accessibility and control of that information. This paper proposes VMS design for Malaysia and reviews security apprehension which also includes concern on trust issues that may arise between government coordination agencies and the volunteers in managing sensitive information either from government agencies or volunteers side. The proposed VMS include the concept of trust and the implementation of security by design concept at the development phase.

Index Terms: Disaster management, information security, volunteer management system.

References:

1. I. M. Shaluf and F. Ahmadun, "Disaster types in Malaysia: An overview," Disaster Prev. Manag. An Int. J., 15(2), 2006, pp. 286–298.
2. F. Wex, G. Schryen, S. Feuerriegel, and D. Neumann, "Emergency response in natural disaster management: Allocation and scheduling of rescue units," Eur. J. Oper. Res., 235(3), 2014, pp. 697–708.
3. J. Whittaker, B. McLennan, and J. Handmer, "A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges," Int. J. Disaster Risk Reduct., 13, 2015, pp. 358–368.
4. L. S. Fernandez, J. A. Barbera, J. R. Van Dorp, F. Lauren, J. A. Barbera, and J. Van Dorp, "Strategies for managing volunteers during incident response: A systems approach," Homel. Secur. Aff., 2(3), 2006, pp. 1–15.
5. L. E. De la Torre, I. S. Dolinskaya, and K. R. Smilowitz, "Disaster relief routing: Integrating research and practice," Socioecon. Plann. Sci., 46(1), 2012, pp. 88–97.
6. J. B. Sheu and C. Pan, "Relief supply collaboration for emergency logistics responses to large-scale disasters," Transp. A Transp. Sci., 11(3), 2015, pp. 210–242.
7. S. Roh, A. Beresford, and S. Pettit, "Challenges in humanitarian logistics management: An empirical study on pre-positioned warehouses," 20th Int. Symp. Logist., 2015, pp. 1-8.
8. W. Liu, G. Hu, and J. Li, "Emergency resources demand prediction using case-based reasoning," Saf. Sci., 50(3), 2012, pp. 530–534.
9. Center for Excellence in Disaster Management and Humanitarian Assistance. Malaysia: Disaster management reference handbook. 2016, Available: https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-Malaysia.pdf.pdf.
10. S. Shafiai and M. S. Khalid, "Flood disaster management in Malaysia: A review of issues of flood disaster relief during and post-disaster," European Proceedings of Social and Behavioural Sciences, 2016, pp. 163–170.
11. A. W. Suhaimi, N. A. Marzuki, and C. S. Mustaffa, "The relationship between emotional intelligence and interpersonal communication skills in disaster management context: A proposed framework," Procedia - Soc. Behav. Sci., 155, 2014, pp. 110–114.
12. T. R. Johnson, Disaster volunteerism. 2014, Available: http://aboutiigr.org/wp-content/uploads/2015/01/Disaster-Volunteerism.pdf.
13. International Strategy for Disaster Reduction, Hyogo framework for action 2005-2015. 2005, Available: https://www.unisdr.org/2005/wcdr/intergover/official-doc/L-docs/Hyogo-framework-for-action-english.pdf.
14. K. Andrei, C. Bernard, J. Leslie, and L. Quinn, A consumers guide to software for volunteer management. 2011, Available: https://www.techsoup.org/SiteCollectionDocuments/article-consumers-guide-to-software-volunteer-management-document.pdf.
15. J. Schonbock, M. Raab, J. Altmann, E. Kapsammer, A. Kusel, B. Proll, W. Retschitzegger, and W. Schwinger "A survey on volunteer management systems," IEEE 49th Hawaii Int. Conf. Syst. Sci., 2016, pp. 767–776.
16. D. Ceresoli, QE-GIPAW user's manual. 2012, Available: https://github.com/dceresoli/qe-gipaw/blob/master/doc/user-manual.pdf.
17. M. A. Hager and J. L. Brudney, Volunteer management: Practices and retention of volunteers. 2004, Available: https://www.urban.org/sites/default/files/publication/58001/411005-Volunteer-Management-Practices-and-Retention-of-Volunteers.PDF.

569-576

18. National Health Service England, Recruiting and managing volunteers in NHS providers: A practical guide. 2017, Available: https://www.england.nhs.uk/wp-content/uploads/2017/10/recruiting-managing-volunteers-nhs-providers-practical-guide.pdf.
19. K. K. Ishak, N. Afiza, M. Razali, A. M. Lokman, and K. Toshiyuki, "Kansei information security assessment (KISA): Characterizing trust as stimuli for user emotional assessment in information security," Indian J. Sci. Technol., 9, 2016, pp. 1–6.
20. R. Morelli, C. de Silva, T. de Lanerolle, R. Curzon, and X. S. Mao, "A global collaboration to deploy help to China," Commun. ACM, 53(12), 2010, pp. 142-149.
21. L. Carver and M. Turoff, "Human-computer interaction: The human and computer as a team in emergency management information systems," Commun. ACM, 50(3), 2007, pp. 33–38.
22. I. J. Sinthiya and E. Shanmugapriya, "Big data in disaster management," Engineering and Technology in India, 1, 2016, pp. 86–108.
23. C. B. Nelson, B. D. Steckler, and J. A. Stamberger, "The evolution of hastily formed networks for disaster response: Technologies, case studies, and future trends," IEEE Glob. Humanit. Technol. Conf., 2011, pp. 467–475,.
24. J. Li, Q. Li, C. Liu, S. Ullah Khan, and N. Ghani, "Community-based collaborative information system for emergency management," Computers and Operations Research, 42, 2014, pp. 116–124.
25. J. P. Li, R. Chen, J. Lee, and H. R. Rao, "A case study of private-public collaboration for humanitarian free and open source disaster management software deployment," Decis. Support Syst., 55(1), 2013, pp. 1–11.
26. B. Thuraisingham, "Big data security and privacy," 5th ACM Conference on Data and Application Security and Privacy, 2015, pp. 279–280.
27. C. Tankard, "Big data security," Netw. Secur., 2012(7), 2012, pp. 5–8.
28. S. Kaisler, F. Armour, J. A. Espinosa, and W. Money, "Big data: Issues and challenges moving forward," 46th Hawaii Int. Conf. Syst. Sci., 2013, pp. 995–1004.
29. T. Bui, "A framework for designing a global information network for multinational humanitarian assistance / disaster relief," Network, 1(4), 2000, pp. 427–442.
30. W. L. Waugh and G. Straib, "Collaboration and leadership for effective emergency management," Public Adm. Rev., 66(suppl. 1), 2006, pp. 131–140.
31. G. Dietz and D. N. Den Hartog, "Measuring trust inside organisations," Pers. Rev., 35(5), 2006, pp. 557–588.
32. C. Dougherty, K. Sayre, R. C. Seacord, D. Svoboda, and K. Togashi, Secure Design Patterns. 2009, Available: https://apps.dtic.mil/dtic/tr/fulltext/u2/a636498.pdf.

120.

Authors: **Mohd Rosdzimin Abdul Rahman, Mohd Faiz Mohd Zahar, Mohd Rashdan Saad, Azam Che Idris, Norwazan Abdul Rahim**

Paper Title: **Experiment on Heat Transfer from Plate Fin**

Abstract: This work is to study mesoscale plate fins under natural and forced convection. Five different designs of plate fins are used to investigate the efficiency of thermal performance under natural and forced convection. The heating plate power is 350 watt. Various air velocities are used for the forced convection study. Size of the testing enclosure is 0.4 m (W) × 1.0 m (L) × 0.09 m (H). Two axial fans are fitted at one end of the testing enclosure. It is found that the Nusselt number increases as increase in Reynolds number for all plate fin design. In the natural convection case, it is found that there is an optimum value of the Rayleigh number where the Nusselt number is at the peak. In overall, result shows that the design 4 gives the best thermal performance for both natural convection and forced convection cases.

Index Terms: Forced convection, mesoscale plate fin, natural convection, thermal management.

References:

1. A. Akcayoglu, "Flow past confined delta-wing type vortex generators," Experimental Thermal and Fluid Sciences, 35, 2011, pp. 112–120.
2. J. Ma, Y. P. Huang, J. Huang, Y. L. Wang, and Q. W. Wang, "Experimental investigations on single-phase heat transfer enhancement with longitudinal vortices in narrow rectangular channel," Nuclear Engineering Design, 240, 2010, pp. 92–102.
3. J. M. Wu and W. Q. Tao, "Effect of longitudinal vortex generator on heat transfer in rectangular channels," Applied Thermal Engineering, 37, 2012, pp. 67–72.
4. M. Khoshvaght-Aliabadi, M. Khoshvaght, and P. Rahnama, "Thermal-hydraulic characteristics of plate-fin heat exchangers with corrugated/vortex-generator plate-fin (CVGPF)," Applied Thermal Engineering, 98, 2016, pp. 690–701.
5. R. V. Rao and G. G. Waghmare, "Multi-objective design optimization of a plate-fin heat sink using a teaching-learning- based optimization algorithm," Applied Thermal Engineering, 76, 2014, pp. 521-529.
6. S. S. Haghighi, H. R. Goshayeshi, and M. R. Safaei, "Natural convection heat transfer enhancement in new designs of plate-fin based heat sinks," International Journal of Heat and Mass Transfer, 125, 2018, pp. 640-647.
7. S. Feng, M. Shi, H. Yan, S. Sun, F. Li, and T. J. Lu, "Natural convection in a cross-fin heat sink," Applied Thermal Engineering, 132, 2018, pp. 30-37
8. X. Meng, J. Zhu, X. Wei, and Y. Yan, "Natural convection heat transfer of a straight-fin heat sink," International Journal of Heat and Mass Transfer, 123, 2018, pp. 561-568.

121.

Authors: **Sivadass Thiruchelvam, Faizal K.P. Kunchi Mohamed, Kamal Nasharuddin Mustapha, Azrul Ghazali, Razi Ishak, Hazlinda Hakimie**

Paper Title: **Safety Assessment in Workplace for Electricity Utility Company in Malaysia**

Abstract: Electricity utility technical workforce are often exposed to risk, danger and hazards at workplace ranging from accidents, electrocution, electric shock, burns, coal dust and noise. Globally, electricity utility recorded the lowest occupational accidents compared to other sectors but the number of fatalities seems to be quite significant. These accidents cause personal loss to employees as well as financial loss to organizations and the economy. This study was conducted in a local electricity utility company with the main aim of assessing the relationship between awareness and compliance of occupational safety and health amongst the technical workforce. The variables utilized to measure occupational safety and health (OSH) compliance included job safety, co-worker safety, supervisor safety, management safety practices and satisfaction with the safety program. This study was done cross-sectionally by using 174 respondents from main arms of the utility such as generation, transmission, distribution and other related subsidiaries. Results indicated that OSH compliance relies upon co-worker safety, supervisor safety, management safety practices and satisfaction with the safety program. Dominant factors such as supervisor safety and satisfaction with the safety program have great implications towards OSH compliance. The implication of this study is defined by its contribution to the understanding of numerous ways management in an electricity utility could endeavor in its effort of increasing employees' well-being based on the needs of the employees and organizations.

Index Terms: Compliance, electricity, occupational health and safety, utility.

References:
1. O. Abudayyeh, T. Fredericks, S. Butt, and A. Shaar, "An investigation of management's commitment to construction safety," International Journal of Project Management, 24, 2006, pp. 167-174.
2. A. S. Ahmad, M. Y. Hassan, M. P. Abdullah, H. A. Rahman, F. Hussin, H. Abdullah, and R. Saidur, "A review on applications of ANN and SVM for building electrical energy consumption forecasting," Renewable and Sustainable Energy Reviews, 33(1), 2014, pp. 102-109.
3. E. Babbie, The Practice of Social Research. Ontario: Nelson Education, 2015.
4. D. Baris, B. G. Armstrong, J. Deadman, and G. Theriault, "A mortality study of electrical utility workers in Quebec," Occupational and Environmental Medicine, 53, 1996, pp. 25-31.
5. J. Barling, and A. Griffiths, "A history of occupational health psychology," in Handbook of Occupational Health Psychology, J. C. Campbell and L. E. Tetrick, Eds. Washington DC: American Psychological Association, 2003, pp. 19 –33.
6. J. Barling, and I. Hutchinson, "Commitment vs. control-based safety practices, safety reputation, and perceived safety climate," Revue Canadienne de l'Administration, 17(1), 2000, pp. 76-84.
7. P. E. Batra, "Electric accidents in the production, transmission, and distribution of electric energy: A review of the literature," International Journal of Occupational Safety and Ergonomics, 7(3), 2001, pp. 285-307.
8. A. M. Bjerkan, "Health, environment, safety culture and climate - Analysing the relationships to occupational accidents," Journal of Risk Research, 13, 2010, pp. 445-477.
9. K. A. Brown, P. G. Willis, and G. E. Prussia, "Predicting safe employee behavior in the steel industry: Development and test of a sociotechnical model," Journal of Operations Management, 18(4), 2000, pp. 445-465.
10. R. M. Choudhry, D. Fang, and S. Mohamed, "The nature of safety culture: A survey of the state-of-the-art," Safety Science, 45(10), 2007, pp. 993-1012.
11. M. D. Cooper, "Towards a model of safety culture," Safety Science, 36(2), 2000, pp. 111-136.
12. D. D. Vaus, "Comparative and cross-national designs" in The SAGE Handbook of Social Research Methods, P. Alasuutari, L. Bickman and J. Brannen, Eds. London: Sage Publications, 2008, pp. 249-264.
13. C. F. Schaw, "Surveys and sampling issues," in Research Methods in Psychology, G. M. Breakwell, S. Hammond and C. F. Schaw, Eds. London: Sage Publications, 2000, pp. 88-104.
14. FMA, Factories and Machinery Act (Act 139: 1967) and Regulations and Rules, Malaysia (2008). International Law Book Services, 1967.
15. J. Fox, "Electric power generation, transmission and distribution safety: A US example," in Encyclopaedia of Occupational Health and Safety, Geneva: International Labour Organization, J. M. Stellman and M. Crane, Eds. 2011, pp. 76.
16. F. J. Gravetter, and L. A. B. Forzano, Research Methods for the Behavioral Sciences. Boston: Cengage Learning, 2018.
17. R. J. Gregory, Psychological Testing: History, Principles and Applications. Boston: Pearson Education, 2004.
18. A. R. Hale, "Culture's confusions," Safety Science, 34, 2000, pp. 1-14.
19. C. Hansen, "A causal model of the relationship among accidents, biodata, personality, and cognitive factors," Journal of Applied Psychology, 74(1), 1989, pp. 81-90.
20. B. E.Hayes, J. Perander, T. Smecko, and J. Trask, "Measuring perceptions of workplace safety: Development and validation of the Work Safety Scale," Journal of Safety Research, 29(3), 1998, pp. 145-161.
21. H. W. Heinrich, Industrial Accident Prevention: A Scientific Approach. New York: McGraw-Hill, 1959.
22. D. A. Hofmann, and A. Stetzer, "A crosslevel investigation of factors influencing unsafe behaviors and accidents," Personnel Psychology, 49, 1996, pp. 307-339.
23. S. H. Hsu, C. C. Lee, M. C. Wu, and K. Takano, "A cross-cultural study of organizational factors on safety: Japanese vs. Taiwanese oil refinery plants," Accident Analysis and Prevention, 40(1), 2008, pp. 24-34.
24. M. Lehto, and G. Salvendy, "Models of accident causation and their application: Review and reappraisal," Journal of Engineering and Technology Management, 8(2), 1991, pp. 173-205.
25. W. L. Neuman, Social Research Methods: Qualitative and Quantitative Approaches. Boston: Allyn and Bacon, 1997.
26. V. F. Nieva, and J. Sorra, "Safety culture assessment: A tool for improving patient safety in healthcare organizations," Qual Saf Health Care, 12(1), 2003, pp. 7-23.
27. Occupational Safety and Health (OSHA), Occupational Safety and Health Act (Act 514: 1994) and Regulations Orders. Washington DC: OSHA, 1994.
28. A. Rahmani, M. Khadem, E. Madreseh, H. A. Aghaei, M. Raei, and M. Karchani, "Descriptive study of occupational accidents and their causes among electricity distribution company workers at an eight-year period in Iran," Safety and Health at Work, 4(3), 2013, pp. 160-165.
29. J. Reason, "Achieving a safe culture: Theory and practice," Work and Stress, 12(3), 1998, pp. 293-306.
30. T. Reiman, and C. Rollenhagen, "Human and organizational biases affecting the management of safety," Reliability Engineering and System Safety, 96(10), 2011, pp. 1263-1274.

Authors:	**Sukono, Eman Lesmana, Dedi Rosadi, Mustafa Mamat, Agung Prabowo, Mohamad Razali Abdullah, Hafizan Juahir, Mohd Khairul Amri Kamarudin**	
Paper Title:	**Analysis of Incremental and Component of Value-at-Risk in the Stocks Investment Portfolio**	
122.	**Abstract:** In the formation of investment portfolios in stock assets, investors often raise questions: actually how much component each stock contributes to portfolio risk. Also, every time a portfolio structure is changed, is there a risk change in the investment portfolio. This paper aims to determine the incremental and component of Value-at-Risk in the formation of an investment portfolio. To solve these problems used several methods as follows: Incremental Value-at-Risk (Ivar) and Component Value-at-Risk (CVaR) used for the measurement of investment risk on some stocks. IVaR to measure changes in the value of a portfolio against changes in the composition or weight of the allocation of funds. Whereas CVaR for identifying elements and composition in the portfolio. IVaR assessment on stock portfolios using the before and after approach, and the delVaR approach. Based on the results of the analysis it can be shown that IVaR estimation using the delVaR approach is more efficient and practical compared to the before and after approach. So the delVaR approach is seen as more practical in its use in incremental measurements and Value-at-Risk components. **Index Terms:** Before & after approach, component, , value-at-risk, incremental. **References:** 1. Sukono, P. Sidi, A. T. B. Bon, and S. Supian, "Modeling of mean-VaR portfolio optimization by risk tolerance when the utility function is quadratic," AIP Conference Proceedings, 1827(1), 2017, pp. 1-9.
2. Sukono, P. Sidi, D. Susanti, and S. Supian, "Quadratic investment portfolio without a risk-free asset based on value-at-risk," Journal of Engineering and Applied Sciences, 12(19), 2017, pp. 4846-4850.
3. K. Dowd. An Introduction to Market Risk Measurement. New York: John Wiley and Sons, 2002.
4. C. Alexander, Risk Management and Analysis. Volume 1: Measuring and Modelling Financial Risk. New York: John Wiley and Sons, 1999.
5. I. N. Khindanova and S. T. Rachev, Value at Risk: Recent Advances. Santa Barbara: University of California, 2004.
6. Sukono, E. Lesmana, D. Susanti, H. Napitupulu, and Y. Hidayat, "Estimating the value-at-risk for some stocks at the capital market in Indonesia based on ARMA-FIGARCH models," Journal of Physics: Conference Series, 909(1), 2017, pp. 1-9.
7. Sukono, A. Kartiwa, B. Subartini, Y. Hidayat, and A. T. Bon, "Estimation of conditional value-at-risk under assets liability model with non	**584-588**

constant volatility," International Conference on Industrial Engineering and Operations Management, 2018, pp. 2726.

8. L. Tibiletti, "Incremental value-at-risk: Traps and misinter-pretations," in Mathematical Finance: Trends in Mathematics, M. Kohlmann and S. Tang, Eds, Basel: Birkhäuser, 2011, pp. 356-361.
9. Sukono, E. Lesmana, B. Subartini, Y. Hidayat, and A. T. Bon, "Value-at-risk contribution under asset liability models by using expenential weighted moving average approaches," International Conference on Industrial Engineering and Operations Management, 2018, pp. 2920-2928.
10. R. S. Tsay, Analysis of Financial Time Series. New Jersey: John Wiley and Sons, 2005.
11. P. Jorion, Bank trading risk and systemic risk. 2004, Available: https://www.nber.org/chapters/c9605.pdf.
12. S. J. Deng, Heavy-tailed GARCH models: Pricing and risk management applications in power market. 2004, Available: https://www.ecse.rpi.edu/~chowj/Deng.pdf.
13. D. Tasche and L. Tibiletti, "A shortcut to sign incremental value-at-risk for risk allocation," Journal of Risk Finance, 4(2), 2003, pp. 43-46.
14. Sukono, A. T. Bin Bon, M. Mamat, and S. Supian, "The APT with lagged, value-at-risk and asset allocations by using econometric approach, "International Conference on Industrial Engineering and Operations Management, pp. 532-542.

123.

Authors: **Ong Ai Lee, Suliadi Sufahani, Mustafa Mamat**

Paper Title: **Satisfaction Index on Factors That Affect Healthy Lifestyle among University Students**

Abstract: Women are an equal soul of men by comprises men in her name itself but really they are treated equal among men. There is a broad gap in between past and present centuries. Women are treated poorly on past centuries by getting huge works, asking more dowries and even killing female infant but in present century these has been reduced and crimes are increased more in numbers against women like abducted, murdered, raped and harassed in various ways. This assessment is on women's tracking system which helps them in their safety and security. Although there are n numbers of tracking devices still crimes against women are in an increasing rate. These crimes have to be reduced in an effective ways of implementing versatile tracking system by combining various technologies into a single integrated unit.

Keywords: Audio and Image, GPS, GPRS, GSM, Sensors.

References:

1. Canadian Paediatric Society, "Impact of media use on children and youth," Paediatrics and Child Health, 8(5), 2003, pp. 301-306.
2. A. S. Ramírez, D. Freres, L. S. Martinez, N. Lewis, A. Bourgoin, B. J. Kelly, C. J. Lee, R. Nagler, J. S. Schwartz, and R. C. Hornik, "Information seeking from media and family/friends increases the likelihood of engaging in healthy lifestyle behaviors," Journal of Health Communication, 18(5), 2013, pp. 527-542.
3. A. Steptoe, J. Wardle, J. Vinck, M. Tuomisto, A. Holte, and L. Wichstrøm, "Personality and attitudinal correlates of healthy and unhealthy lifestyles in young adults," Psychology and Health, 9(5), 1994, pp. 331-343.
4. A. Vingerhoets, M. Croon, A. Jeninga, and L. Menges, "Personality and health habits," Psychology and Health, 4(4), 1990, pp. 333-342.
5. E. Faught, D. Gleddie, K. Storey, C. Davison, and P. Veugelers, "Healthy lifestyle behaviours are positively and independently associated with academic achievement: An analysis of self-reported data from a nationally representative sample of Canadian early adolescents," Plos One, 12(7), 2017, pp. 1-14.
6. F. Penedo and J. Dahn, "Exercise and well-being: A review of mental and physical health benefits associated with physical activity," Current Opinion in Psychiatry, 18(2), 2005, pp. 189-193.
7. G. Israel, Determining Sample size. Gainesville: University of Florida, 1992.
8. H. Cramer, D. Sibbritt, C. Park, J. Adams, and R. Lauche, "Is the practice of yoga or meditation associated with a healthy lifestyle? Results of a national cross-sectional survey of 28,695 Australian women," Journal of Psychosomatic Research, 101, 2017, pp. 104-109.
9. J. Mattsson and H. Helmersson, "Eating fast food: Attitudes of high-school students," International Journal of Consumer Studies, 31(1), 2007, pp. 117-121.
10. J. Santos, "Cronbach's alpha: A tool for assessing the reliability of scales," Journal of Extension, 37(2), 1999, pp. 1-5.
11. K. Ganasegeran, S. Al-Dubai, A. Qureshi, A. Al-abed, A. Rizal, and S. Aljunid, "Social and psychological factors affecting eating habits among university students in a Malaysian Medical School: A cross-sectional study", Nutrition Journal, 11(1), 2012, pp. 1-7.
12. K. Nazi, "Veterans' voices: Use of the american customer satisfaction index (ACSI) survey to identify my healthevet personal health record users' characteristics, needs, and preferences," Journal of the American Medical Informatics Association, 17(2), 2010, pp. 203-211.
13. M. McCrory and W. Campbell, "Effects of eating frequency, snacking, and breakfast skipping on energy regulation: Symposium overview," Journal of Nutrition, 141(1), 2010, pp. 144-147.
14. M. Noor, "The nutrition and health transition in Malaysia," Public Health Nutrition, 5(1), 2002, pp. 191-195.
15. M. Reeves and A. Rafferty, "Healthy lifestyle characteristics among adults in the United States, 2000," Archives of Internal Medicine, 165(8), 2005, pp. 854-857.
16. M. Von Bothmer and B. Fridlund, "Gender differences in health habits and in motivation for a healthy lifestyle among Swedish university students," Nursing and Health Sciences, 7(2), 2005, pp. 107-118.
17. N. Sanlier, M. Pehlivan, G. Sabuncular, S. Bakan, and Y. Isguzar, "Determining the relationship between body mass index, healthy lifestyle behaviors and social appearance anxiety," Ecology of Food and Nutrition, 57(2), 2018, pp. 124-139.
18. N. Shankar and C. Park, "Effects of stress on students' physical and mental health and academic success," International Journal of School and Educational Psychology, 4(1), 2016, pp. 5-9.
19. R. Al-Naggar, Y. Bobryshev, and N. Mohd Noor, "Lifestyle practice among Malaysian university students," Asian Pacific Journal of Cancer Prevention, 14(3), 2013, pp. 1895-1903.
20. R. Divine, and L. Lepisto, "Analysis of the healthy lifestyle consumer," Journal of Consumer Marketing, 22(50), 2005, pp. 275-283.
21. R. S. Michael, Crosstabulation and chi square. 2001, Available: http://www. indiana. edu/~ educy520/sec5982/week_12/chi_sq_summary011020. pdf.
22. R. Somers, "A new asymmetric measure of association for ordinal variables," American Sociological Review, 27(6), 1962, pp. 799-811.
23. S. Alam, N. Hazrul Nik Hashim, M. Ahmad, C. Che Wel, S. Nor, and N. Omar, "Negative and positive impact of internet addiction on young adults: Empericial study in Malaysia," Intangible Capital, 10(3), 2014, pp. 619-638.
24. S. Dutta, R. Kumar Chauhan, and K. Chauhan, "Factors affecting customer satisfaction of online travel agencies in India," Tourism and Hospitality Management, 23(2), 2017, pp. 267-277.
25. S. Hanson and A. Jones, "Is there evidence that walking groups have health benefits? A systematic review and meta-analysis," British Journal of Sports Medicine, 49(11), 2015, pp. 710-715.
26. S. Kathryn, K. Rodas-Fortier, and M. Neyman, "A survey of dietary and exercise habits and perceived barriers to following a healthy lifestyle in a college population," California Journal of Health Promotion, 2(2), 2004, pp. 10-19.
27. T. S. Chin, The problem of obesity. 2017. Available: https://www.star2.com/health/wellness/2017/07/30/the-problem-of-obesity/.
28. W. Viechtbauer, L. Smits, D. Kotz, L. Bude, M. Spigt, J. Serroyen, and R. Crutzen, "A simple formula for the calculation of sample size in pilot studies," Journal of Clinical Epidemiology, 68(11), 2015, pp. 1375-1379.
29. Z. Ismail, K. Thukiman, I. Mohamad, M. A. Hamid, F. Ismail, M. Abdullah, and S. F. Sufahani, Indeks kepuasan rakyat Malaysia (MPSI) 2016. UTM Survey Research Group, 2016.
30. D. Jayeola, Z. Ismail, S. F. Sufahani, and D. P. Manliura, "Optimal method for investing on assets using black litterman model," Far East Journal of Mathematical Sciences, 101(5), 2017, pp. 1123-1131.

31. S. F. Sufahani and Z. Ismail, “The statistical analysis of the prevalence of pneumonia for children age 12 in west Malaysian hospital,” Applied Mathematical Sciences, 8(113-116), 2014, pp. 5673-5680.
32. S. F. Sufahani, N. Che-Him, A. Khamis, M. S. Rusiman, N. A. Arbin, C. K. Yee, I. N. Ramli, N. A. Suhaimi, S. S. Jing, and Z. A. Azmi, “Descriptive statistics with box-jenkins and marketing research for jewellery company in Malaysia,” Far East Journal of Mathematical Sciences, 101(10), 2017, pp. 2151-2161.
33. S. F. Sufahani and A. Ahmad, “A comparison between normal and non-normal data in bootstrap,” Applied Mathematical Sciences, 6(89-92), 2012, pp. 4547-4560.
34. M. S. Rusiman, O. C. Hou, A. W. Abdullah, S. F. Sufahani and N. A. Azmi, “An analysis of time series for the prediction of barramundi (Ikan Siakap) price in Malaysia,” Far East Journal of Mathematical Sciences, 102(9), 2017, pp. 2081-2093.
35. Z. Ismail, N. Abu, and S. Sufahani, “New product forecasting with limited or no data,” AIP Conference Proceedings, 1782(1), 2016, pp. 1-8.
36. S. Sufahani, M. G. Kamardan, M. S. Rusiman, M. Mohamad, M. Z. M. Othman, K. Khalid, M. Ali, and M. K. M. Nawawi, “A mathematical study on additive technique versus branch and bound technique for solving binary programming problem,” Journal of Physics: Conference Series, 995(1), 2018, pp. 1-9.
37. M. Ali, S. Sufahani, M. G. Kamardan, and Z. Ismail, “A new diet scheduling model for Malaysian school children using zero-one optimization approach,” Global Journal of Pure and Applied Mathematics, 12(1), 2016, pp. 413-419.
38. A. Zinober and S. Sufahani, “A non-standard optimal control problem arising in an economics application,” Pesquisa Operacional, 33(1), 2013, pp. 63-71.

124.

Authors: **Puspa Liza Ghazali, Hazimi Foziah, Mustafa Mamat, Roslida Abdul Razak, Lazim Omar, Asyraf Afthanorhan, Wan Mohd Nazri Wan Daud**

Paper Title: **Mathematical Concept in Integration Model of Education Plan Takaful**

Abstract: This research has focused on the new mathematical model of family takaful in which specifically design for education plan takaful. This research wants to come up with the solution in creating the new quotation method of new model of family takaful business in education plan takaful. According to the new model of family takaful, there are many advantages of the riders which more versatile as compared to the present family takaful, as for example death benefit, death coverage, critical illnesses or loss of effort to work, khairat and hospitality bills. The low premium in the new model of family takaful is believed to get an interest ranging from the lower income group and also high income Muslims people in order to save the money for their children education and health.

Index Terms: Critical illnesses, death benefit, death coverage, education plan takaful, hospitality bills, khairat, loss of effort to work.

References:

1. M. N. Siddiqi, Muslim Economic Thinking: A Survey of Contemporary Literature. Jeddah: King Abdul Aziz University, 1980.
2. S. H. Amin, Islamic law in the contemporary word. Glasgow, 1985.
3. Report of the Committee on the setting-up of an Islamic insurance company in Malaysia. Kuala Lumpur, 1984.
4. N. A. Salleh, Gharar, fahish, mutawassit (moderate) and yasir. 1986.
5. P. L. Ghazali, I. Mohd, M. Mamat, and W. M. A. W. Ahmad, "Mathematical modelling in family takaful," Journal of Applied Science, 11(19), 2011, pp. 3381-3388.
6. S. W. Ahmad, “Islamic Insurance in Malaysia,” in The Muslim Private Sector in South East Asia, M. Ariff, Ed. Singapore: Institute of Southeast Asian Studies, 2000, pp. 187-216
7. Syarikat Takaful Malaysia Sdn. Bhd., Annual report 1991. Kuala Lumpur: Syarikat Takaful Malaysia Sdn. Bhd., 1991.
8. N. N. Z. B. A. Azhar, P. L. B. Ghazali, M. B. Mamat, Y. B. Abdullah, S. B. Mahmud, S. B. Lambak, Z. B. Sulong, N. H. B. M. Foziah, and A. Z. B. A. Latif, “Acceptance of integrated modification model of auto takaful insurance in Malaysia,” Far East Journal of Mathematical Sciences, 101(8), 2017, pp. 1771-1784.
9. P. L. Ghazali, M. Mustafa, L. Omar, N. H. M. Foziah, D. A. Guci, Y. B. Abdullah, and N. E. S. B. Sazali, “Medical integration model of family takaful for blue collar,” Far East Journal of Mathematical Sciences, 101(6), 2017, pp. 1197-1205.
10. P. L. Ghazali, Integration model of family takaful. PhD thesis, Universiti Malaysia Terengganu, 2013.
11. P. L. Ghazali, M. Ismail, M. Mustafa, and W. A. W. M. Amir, “Integration model of premium life tables of family takaful,” Journal of Applied Science Research, 8(7), 2012, pp. 3763-3776.

594-599

125.

Authors: **Munirah Abd Rahman, Puspa Liza Ghazali, Chong Ju Lian, Norasmah Basari, Mustafa Mamat, Hazimi Foziah, Asyraf Afthanorhan**

Paper Title: **Suitable Ranching Practices in Successful Edible Bird Nest Swiftlet Houses in Terengganu**

Abstract: Majority of edible bird nest (EBN) swiftlet farming industry entrepreneurs suffered losses due to lack of information in suitable ranching practices in EBN swiftlet house. This is because EBN production is influenced by various ranching practices such as EBN swiftlet house types, ranching system, cleaning and maintenance program, guano disposal method, odour program and knowledge on signs of disease that are common in EBN swiftlet. This study compared ranching practices in EBN swiftlet houses in the coastal, rural and urban area in Terengganu to investigate factors that play a critical role in determining the success of a swiftlet ranching venture. This study was conducted from September 2015 until March 2018. Questionaires were distributed to 246 EBN industry operators; 82 in coastal, rural and urban area in Terengganu respectively. Results showed that for EBN swiftlet houses, single lot buildings were the most preferred (51.63 %), single farming was the most popular ranching system (73.17 %), with almost half (43.9 %) of the EBN entrepreneurs cleaned and maintained their swiftlet house once in three months, 39.84 % of the EBN entrepreneurs collected and composted the guano, majority (76.02 %) of the EBN entrepreneurs did not use odour application to attract EBN swiftlets and most owners (81.3 %) of EBN swiftlet house not familiar with EBN swiftlet disease. There is significant correlation among ranching practices in swiftlet house with location area. Suitable ranching practices were the success factors to ensure high swiftlet population which in term contributes to higher nest production.

Index Terms: Edible bird nest production, suitable ranching practices, sustainable management, swiftlet ranching.

References:

1. I. Azahar, A. A. Abdullah, and M. A. Rehman, "An overview of the study of the right habitat and suitable environmental factors that influence the success of edible bird nest production in Malaysia," Asian Journal of Agricultural Research, 8(1), 2014, pp. 1-16.
2. N. N. Z. B. A. Azhar, P. L. Ghazali, M. Mamat, Y. Abdullah, S. Mahmud, S. Lambak, Z. Sulong, N. H. Foziah, and A. Z. B. A. Latif, "Acceptance of integrated modification model of auto takaful insurance in Malaysia," Far East Journal of Mathematical Sciences, 101(8), 2017,

600-604

pp. 1771-1784.
3. J. W. K. J. W. Bartett, and C. C. H. C. C. Higgins, "Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research," Information Technology, Learning and Performance Journal, 19(1), 2001, pp. 43-50.
4. P. Chantler, & G. Driessens, Swifts-A Guide to the Swifts and Tree Swifts of the World. Sussex: Pica Press, 2000.
5. P. L. Ghazali, M. Mamat, L. Omar, H. Foziah, D. A. Guci, Y. B. Abdullah, and N. E. S. Sazali, "Medical integration model of family takaful for blue collar," Far East Journal of Mathematical Sciences, 101(6), 2017, pp. 1197-1205.
6. W. L. Goh, W. S. Siew, S. E. W. Davies, S. Ball, G. Khoo, C. K. Lim, and M. A. Rahman, "Genetic diversity among white-nest swiftlets of the genus Aerodramus (Aves: Apodidae: Collocaliini) of house-farms in Malaysia," Raffles Bulletin of Zoology, 66, 2018, pp. 350-360.
7. Z. Hamzah, N. H. Ibrahim, J. Sarojini, K. Hussin, O. Hashim, and B. B. Lee, "Nutritional properties of edible bird nest," Journal of Asian Scientific Research, 3(6), 2013, pp. 600-607.
8. S. C. Hendri, Strategi Jitu Memikat Walet. Jakarta: PT AgroMedia Pustaka, 2007.
9. A. C. Hobbs, Chronicles of Pharmacy. London: MacMillan, 2004.
10. R. V. Krejcie, and D. W. Morgan, "Determining sample size for research activities," Educational and Psychological Measurement, 30(3), 1970, pp. 607-610.
11. C. K. Lim, & G. G. H. Cranbrook, Swiftlets of Borneo: Builders of Edible Nests. Sabah: Natural History Publication (Borneo), 2014.
12. A. Mardiastuti, & T. Soehartono, Current Situation of the Edible-Nest Swiftlet in Indonesia. Surabaya, 1996.
13. A. Mardiastuti, Y. A. Mulyani, J. Sugarjito, L. N. Ginoga, I. Maryanto, & A. Nugraha, Teknik pengusahaan walet rumah, pemanenan sarang dan penanganan pasca panen. Laporan Akhir Reset Unggulan Terpadu, Jakarta: Kantor Menteri Negara Riset dan Teknologi, 1998.
14. A. S. Mohd, Industri sarang burung walit satu industri bernilai tinggi. Malaysia: Jabatan Perkhidmatan Veterinar Negeri Terengganu, 2010.
15. S. Nasir, Membangun Rumah Walet Hemat Biaya. Jakarta: Agromedia Pustaka, 2009.
16. M. A. Rahman, P. L. Ghazali, and C. J. Lian, "Environmental parameters in successful edible bird nest swiftlet houses in Terengganu," Journal of Sustainability Science and Management, 13(1), 2018, pp. 127-131.
17. O. Retno, & I. Soedarmanto, "The detection of Staphylococcus aureus in swiftlets' nest using Immunohistochemistry (Streptavidin Biotin)," Folia Medica Indonesiana, 41, 2005, pp. 266-270.
18. C. C. Thorburn, "The edible birds' nest boom in Indonesia and South-East Asia: A nested political ecology," Food,Culture and Society, 17(4), 2014, pp. 535-553.
19. C. C. Thorburn, "The edible nest swiftlet industry in Southeast Asia: Capitalism meets commensalism," Human Ecology An Interdisciplinary Journal, 43(1), 2015, pp. 179-184.
20. Kementerian Pertanian dan Industri Asas Tani (KPIAT), Garis panduan pembangunan industri burung walet (1GP). Putrajaya: KPIAT, 2010.
21. F. E. Rheindt, J. A. Norman, and L. Christidis, "Extensive diversification across islands in the echolocating Aerodramus swiftlets," Raffles Bulletin of Zoology, 62, 2014, pp. 89-99.
22. S. H. Ibrahim, A. Baharun, and A. Kabiru, Study on suitable construction materials for swiftlet farming using EnergyPlus. 2011, Available: https://swifin.com.my/web/wp-content/uploads/2011/07/ICOTOS_2011_Full-Paper_Study_on_Suitable_Construction_Mater.pdf.

126.

Authors: **Mumtazimah Mohamad, Nurul Athirah Rozlan, Fatihah Mohd**

Paper Title: **Analysis of Oral Cancer Prediction with Pairwise Preprocessing Techniques using Hybrid Feature Selection and Ensemble Classification**

Abstract: Class imbalance is one of main problem in data mining field that can prompt to misclassification. Data are said to be imbalanced if the classes instances are not appearing similarly. Despite the fact that the sample of the dominant class and their appropriate classification are vital to classifier, oral cancer is analyzed by depending on the minority class tests. Numerous classification learning algorithms have low prescient precision for the rare class. Additionally, majority of the classification algorithms concern on the classification of significant major sample while overlooking the minority class. Misclassification resulted to non-cancerous and the cancerous patients pay expansion time and cost. In this research study, an examination of imbalanced classification issue on oral cancer prediction will be thoroughly performed. This investigation utilizes crossover approach of SMOTE and Random Undersampling and mix of feature selection strategies. The proposed algorithm is expected to gives better class imbalance solution and better performance in classification of oral cancer prediction.

Index Terms: class imbalance, data preprocessing techniques, ensemble algorithm, feature selection.

References:

1. Z. A. Bakar, F. Mohd, N. Maizura M. Noor, and Z. A. Rajion, "Demographic profile of oral cancer patients in East Coast of Peninsular Malaysia," International Medical Journal, 20(3), 2013, pp. 362-364.
2. A. Wosiak, and S. Karbowiak, "Preprocessing compensation techniques for improved classification of imbalanced medical datasets," IEEE Federated Conference on Computer Science and Information Systems, 2017, pp. 203-211.
3. S. Wilk, J. Stefanowski, S. Wojciechowski, K. J. Farion, and W. Michalowski, "Application of preprocessing methods to imbalanced clinical data: An experimental study," Conference of Information Technologies in Biomedicine, 2016, pp. 503-515.
4. F. Mohd, Z. A. Bakar, N. M. M. Noor, Z. A. Rajion, and N. Saddki, "A hybrid selection method based on HCELFS and SVM for the diagnosis of oral cancer staging," Lecture Notes in Electrical Engineering, 315, 2015, pp. 821-831.
5. M. Galar, A. Fernandez, E. Barrenechea, H. Bustince, and F. Herrera, "A review on ensembles for the class imbalance problem: Bagging-, boosting-, and hybrid-based approaches," IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews), 42(4), 2012, pp. 463-484.
6. G. Haixiang, L. Yijing, J. Shang, G. Mingyun, H. Yuanyue, and G. Bing, "Learning from class-imbalanced data: Review of methods and applications," Expert Systems with Applications, 73, 2017, pp. 220-239.
7. B. Krawczyk, "Learning from imbalanced data: open challenges and future directions," Progress in Artificial Intelligence, 5(4), 2016, pp. 221-232.
8. V. García, J. S. Sánchez, and R. A. Mollineda, "On the effectiveness of preprocessing methods when dealing with different levels of class imbalance," Knowledge-Based Systems, 25(1), 2012, pp. 13-21.
9. W. T. Tseng, W. F. Chiang, S. Y. Liu, J. Roan, and C. N. Lin, "The application of data mining techniques to oral cancer prognosis," Journal of Medical Systems, 39(5), 2015, pp. 1-7.
10. N. Sharma, and H. Om, "Data mining models for predicting oral cancer survivability," Network Modeling Analysis in Health Informatics and Bioinformatics, 2(4), 2013, pp. 285-295.
11. S. Wang, and X. Yao, "Relationships between diversity of classification ensembles and single-class performance measures," IEEE Transactions on Knowledge and Data Engineering, 25(1), 2013, pp. 206-219.
12. C. Zhang, J. Bi, and P. Soda, "Feature selection and resampling in class imbalance learning: Which comes first? An empirical study in the biological domain," IEEE International Conference on Bioinformatics and Biomedicine, 2017, pp. 933-938.
13. N. A. Abolkarlou, A. A. Niknafs, and M. K. Ebrahimpour, "Ensemble imbalance classification: Using data preprocessing, clustering algorithm and genetic algorithm," 4th International Conference on Computer and Knowledge Engineering, 2014, pp. 171-176.
14. P. Jaganathan, N. Rajkumar, and R. Kuppuchamy. "A comparative study of improved F-score with support vector machine and RBF network for breast cancer classification," International Journal of Machine Learning and Computing, 2(6), 2012, pp. 741-745.
15. H. He, and E. A. Garcia, "Learning from imbalanced data," IEEE Transactions on Knowledge and Data Engineering, 21(9), 2009, pp. 1263-1284.
16. R. F. A. B. D. Morais, P. B. C. Miranda, and R. M. A. Silva, "A meta-learning method to select under-sampling algorithms for imbalanced data

sets," 5th Brazilian Conference on Intelligent Systems, Recife, 2016, pp. 385-390.
17. N. V. Chawla, K. W. Bowyer, L. O. Hall, and W. P. Kegelmeyer, "SMOTE: Synthetic minority over-sampling technique," Journal of Artificial Intelligence Research, 16, 2002, pp. 321-357.
18. K. P. Exarchos, Y. Goletsis, and D. I. Fotiadis, "Multiparametric decision support system for the prediction of oral cancer reoccurrence," IEEE Transactions on Information Technology in Biomedicine, 16(6), 2012, pp. 1127-1134.
19. S. W. Chang, S. A. Kareem, A. F. Merican, and R. Zain, "Oral cancer prognosis based on clinicopathologic and genomic markers using a hybrid of feature selection and machine learning methods," BMC Bioinformatics, 14(1), 2013, pp. 1-15.
20. S. Ertekin, J. Huang, and C. L. Giles, "Active learning for class imbalance problem," Special Interest Group on Information Retrieval Conference, 2007, pp. 823-824.
21. R. Longadge, and S. Dongre, "Class imbalance problem in data mining review," International Journal of Computer Science and Network, 2(1), 2013, pp. 1-6.
22. E. Olivetti, S. Greiner, and P. Avesani, "Statistical independence for the evaluation of classifier-based diagnosis," Brain Informatics, 2(1), 2015, pp. 13-19.
23. C. Gong, and L. Gu, "A novel SMOTE-based classification approach to online data imbalance problem," Mathematical Problems in Engineering, 2016, 2016, pp. 1-14.
24. V. García, J. S. Sánchez, and R. A. Mollineda, "On the effectiveness of preprocessing methods when dealing with different levels of class imbalance," Knowledge-Based Systems, 25(1), 2012, pp. 13-21.
25. D. Morent, K. Stathatos, W. C. Lin, and M. Berthold, "Comprehensive PMML preprocessing in KNIME," Workshop on Predictive Markup Language Modeling, 2011, pp. 28-31.

127.	**Authors:**	**Rasid Mamat, Mohamad Afendee Mohamed, Muhammad Hafizzuddin Nasruddin, Mohd Khalid Awang, Fatma Susilawati Mohamed**
	Paper Title:	**Least Square Method Technique for Predicting the Acquisition of Raw Materials and Sales of Crisp for Small and Medium Enterprises**

Abstract: Small and Medium Enterprises (SME) are companies that usually run in rural areas and is part of the initiatives by the government to increase the economy of the rural population. A case study was conducted on a SME company, Teguh Enterprise Sdn Bhd which sells various types of chips based on local products such as sweet potatoes, bananas, breadfruits and others. Acquisition of raw materials for product produce as well as revenue from monthly sales of products are important information for a company as means to sustain its operations. However, that information is usually unstable and difficult to predict even though the forecast of the products needs to be done to obtain optimum revenue. This is because there is a demand for raw materials increase and sometimes decreases. Based on the products' forecast, SMEs will be able to produce and manage their products more efficiently. This study uses the Least Square Method (LSM) as a measure to forecast the productions of each products and the acquisition of raw materials based on previous data. Based on the result, we can concluded the prediction analysis using LSM can help this company be predict the raw materials and of chips for the future period.

Index Terms: BBQ potato, least square method, sales prediction, salted potato.

References:

1. M. A. H. Abdullah, Industri Kecil di Malaysia: Pembangunan dan Masa Depan. Kuala Lumpur: Dewan Bahasa dan Pustaka, 1997.
2. R. Zaimah, and S. Abdullah, "Tahap keupayaan usahawan dalam Perusahaan Kecil dan Sederhana di Kuala Terengganu (The entrepreneurs' capability level in the Small and Medium Enterprises in Kuala Terengganu)," Geografia-Malaysian Journal of Society and Space, 13(4), 2017, pp. 117-125.
3. K. Mori, M. Kasim, M. Dullah, and A. Wilson, "Industri kecil dan sederhana (IKS) dan pinjaman kewangan di Sabah: Satu analisis empirikal," Persidangan Kebangsaan Ekonomi Malaysia IV, 2009, pp. 185-198.
4. A. Sidal, "Taksonomi keupayaan usahawan wanita Melayu (Taxonomy on Malay women entrepreneurs' potentials)," Journal of Human Capital Development, 7(2), 2014, pp. 63-78.
5. S. B. Taştan, "The influences of participative organizational climate and self-leadership on innovative behavior and the roles of job involvement and proactive personality: A survey in the context of SMEs in Izmir," Procedia-Social and Behavioral Sciences, 75, 2013, pp. 407-419.
6. H. Abdi, "The method of least squares," in N. J. Salkind (ed.), Encyclopedia of Measurement and Statistics, California: Sage Publications, 2007, pp. 1-7.
7. M. F. Rambe, "Perancangan aplikasi peramalan persediaan obat-obatan menggunakan metode least square (Studi kasus: Apotik mutiara hati)," Teknik Informatika, 6, 2014, pp. 49-51.
8. J. K. Sharma, Business Statistics. New Delhi: Pearson Education India, 2007.
9. S. Dedgaonkar, V. Patil, N. Rathod, G. Hakare, and J. Bhosale, "Solar energy prediction using least square linear regression method," International Journal of Current Engineering and Technology, 6(5), 2016, pp. 1549-1552.
10. N. Sharma, J. Gummeson, D. Irwin, and P. Shenoy, "Cloudy computing: Leveraging weather forecasts in energy harvesting sensor systems," 7th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks, 2010, pp. 1-9.
11. D. Mulyani, "Prediction of new student numbers using least square method," International Journal of Advanced Research in Artificial Intelligence, 4(5), 2015, pp. 30-35.
12. Simple linear regression I – Least squares estimation. Available: http://users.stat.ufl.edu/~winner/qmb3250/notespart2.pdf.
13. E. W. Weisstein, Least squares fitting. 2002, Available: http://mathworld.wolfram.com/LeastSquaresFitting.html.

612-616

128.	**Authors:**	**Suryani Ismail, Fatihah Mohd, Masita, Masila Abdul Jalil**
	Paper Title:	**A Controlled Experiment on Reusability Component Evaluation: Demographics Results**

Abstract: Software component reuse (SCR) is considered as an important solution to software engineering problems. There is a wide benefit of SCR to improve the productivity and the quality of software development (SD). Many organizations have benefited from using reusable components in reducing the time and cost of software development. Our objective is to evaluate and validate the reliability of the component reusability for component based software development (CBSD). To achieve this objective, we systematically designed a controlled experiment using human subjects among 20 experts working in SD. The survey, conducted contains 2 sections. Section A is to be answered by respondents before the experimental tasks begin, while section B contains the results of user evaluation and their experience of using the given Java components. In this study, a finding of section A is presented. It contains mostly about questions about the user background of software engineering processes. It is targeted to collect some information regarding the respondent's background such as: working experience and some aspects related to their familiarity of software engineering tasks. Among the findings are the followings: (i) A total of 20 respondents is the expert in software engineering: system analyst 5%, lecturer 50%, and postgraduate student considered as a researcher is 45%. (ii)

617-623

The majority of the experts were working more than 10 - 20 years (45%), followed by less than 5 years (30%), 5 to 10 years (20%) and 21 to 30 years (5%). (iii) In term of working experience, most of the experts (39%) were average and substantial in their work experience, and only 7% of the experts had none experience in their job. The results of our survey will be of interest to software development professionals. It will benefit as a guide for users to develop the new component for reuse and also help user to choose the components for reuse in a new software development.

Index Terms: Component based software development (CBSD), controlled experiment, software component reuse (SCR), software engineering.

References:

1. R. S. Pressman, Software Engineering: A Practitioner's Approach. New York: McGraw-Hill, 2001.
2. A. I. Khan, N. Qayyum, and U. A. Khan, "An improved model for component based software development," Software Engineering, 2(4), 2012, pp. 138-146.
3. A. Ibraheem, A. Abdallah, and Y. Mohd, "Taxonomy, definition, approaches, benefits, reusability levels, factors and adaption of software reusability: a review of the research literature," Journal of Applied Sciences, 14(20), 2014, pp. 2396-2421.
4. V. R. Basili, L. C. Briand, and W. L. Melo, "How reuse influences productivity in object-oriented systems," Communications of the ACM, 39(10), 1996, pp. 104-117.
5. S. Ismail1, W. M. N. Wan Abdul Kadir, and N M Mohd Noor, "Reuse component object oriented programming can help in learning and development system," International Conference on Quality of Teaching and Learning, 2012.
6. B. Jalender, B, A. Govardhan, and P. Premchand, "Designing code level reusable software components," International Journal Software Engineering Application, 3, 2012, pp. 219-229.
7. C. W. Kruger, "Software reuse," ACM Computing Surveys, 24(2), 1992, pp. 132-138.
8. S. Hong, and B. Koelzer, "A comparison of software reuse support in object-oriented methodologies," IRMA, 1995, pp. 1-18.
9. R. Land, A. Alvaro, and I. Crnkovic. "Towards efficient software component evaluation: An examination of component selection and certification," 34th Euromicro Conference Software Engineering and Advanced Applications, 2008, pp. 274-281.
10. C. Wohlin, and M. Höst. "Controlled experiments in software engineering," Information and Software Technology, 43, 2001, pp. 921-924.
11. P. Runeson, and M. Höst. "Guidelines for conducting and reporting case study research in software engineering," Empirical Software Engineering, 14, 2009, pp. 131-164.
12. H. Chennamsetty, Experimentation in global software engineering. Master thesis, Sweden: Blekinge Institute of Technology, 2015.
13. A. J. Ko, T. D. Latoza, and M. M. Burnett, "A practical guide to controlled experiments of software engineering tools with human participants," Empirical Software Engineering, 20, 2015, pp. 110-141.
14. V. Garousi, A. Coşkunçay, A. Betin-Can, and O. Demirörs, "A survey of software engineering practices in Turkey," Journal of Systems and Software, 108, 2015, pp. 148-177.
15. M. Sulír, "Sharing developers' mental models through source code annotations," Federated Conference on Computer Science and Information Systems, 2015, pp. 997-1006.
16. P. Pourali, and J. M. Atlee, An experimental investigation on understanding the difficulties and challenges of software modellers when using modelling tools. 2018, Available: https://cs.uwaterloo.ca/sites/ca.computer-science/files/uploads/files/cs-2018-03_0.pdf.
17. M. Kim, T. Zimmermann, R. DeLine, and A. Begel. "The emerging role of data scientists on software development teams," 38th International Conference on Software Engineering, 2016, pp. 96-107.
18. W. Snipes, A. R. Nair, and E. Murphy-Hill, "Experiences gamifying developer adoption of practices and tools," 36th International Conference on Software Engineering, 2014, pp. 105-114.
19. S. Ismail, W. M. N. W. A. Kadir, N. M. M. Noor, and F. Mohd, "Determining characteristics of the software components reusability for component based software development," Journal of Telecommunication, Electronic and Computer Engineering, 9, 2017, pp. 213-216.
20. S. Ismail, F. Mohd, M. A. Jalil and W. M. N. W. A. Kadir, "Development metrics measurement level for component reusability evaluation approach (CREA)," International Journal of Electrical and Computer Engineering.
21. R. A. Peterson, "Meta-analysis of Alpha Cronbach's coefficient," Journal of Consumer Research, 21(51), 1994, pp. 381–391.

129.

Authors: **Norhaslinda Zull, Nurul 'Aini, Mohd Rivaie, Mustafa Mamat**

Paper Title: **A New Gradient Method for Solving Linear Regression Model**

Abstract: One of the commonly used optimization methods is the conjugate gradient (CG) method. This method is highly practical for solving large scale problems and applicable for real life. This study suggests another CG method that fulfills the sufficient descent and global convergence properties. The robustness and efficiency of the proposed method are evaluated by comparison with other established CG methods. The numerical testing uses sixteen test functions in MATLAB subroutine programming under strong Wolfe line search. Numerically, the result concludes that the new CG method has the best performance in term of iteration number (NOI) and CPU time. This method is then implemented for solving linear regression model in order to show its applicability. Hence, this method has been proven to be successful.

Index Terms: Conjugate gradient method, global convergence, regression analysis, strong Wolfe.

References:

1. A. Abashar, M. Mamat, M. Rivaie, and I. Mohd, "Global convergence properties of a new class of conjugate gradient method for unconstrained optimization," Applied Math. Sci., 8(67), 2014, pp. 3307-3319.
2. A. Abashar, M. Mamat, M. Rivaie, I. Mohd, and O. Omer, "The proof of sufficient descent condition for a new type of conjugate gradient methods," AIP Conference Proceedings, 1602, 2014, pp. 296-303.
3. A. M. Brown, "A step-by-step guide to non-linear regression analysis of experimental data using a Microsoft Excel spreadsheet," Computer Methods and Programs in Biomedicine, 65, 2011, pp. 191- 200.
4. E. Dolan, and J. J. More, "Benchmarking optimization software with performance profile," Math. Prog., 91, 2002, pp. 201–213.
5. E. Polak, and G. Ribiere, "Note sur la convergence de directions conjugees," Rev. Francaise Inform. Recherche Operationelle, 3, 1969, pp. 35–43.
6. H. J. Motulsky, and A. Christopoulos, Fitting Models to Biological Data using Linear and Nonlinear Regression: A Practical Guide to Curve Fitting. California: Oxford University Press, 2004.
7. K. E. Hilstrom, "A simulation test approach to the evaluation of nonlinear optimization algorithms," ACM. Trans. Math. Softw., 3, 1977, pp. 305–315.
8. M. Jamil, and X. S. Yang, "A nonlinear conjugate gradient method with a strong global convergence property," SIAM Journal on Optimization, 10(1), 2013, pp. 177-182.
9. M. R. Hestenes, and E. Steifel, "Method of conjugate gradient for solving linear equations," J. Res. Nat. Bur. Stand., 49, 1952, pp. 409–436.
10. M. Rivaie, M. Mustafa, L. W. June, and I. Mohd, "A new class of nonlinear conjugate gradient coefficient with global convergence properties," Appl. Math. Comp., 218, 2012, pp. 11323–11332.
11. N. 'Aini, N. Hajar, M. Mamat, N. Zull, and M. Rivaie, "Hybrid quasi-Newton and conjugate gradient method for solving unconstrained

624-630

optimization problems," Journal of Engineering and Applied Sciences, 12(18), 2017, pp. 4627-4631.
12. N. Andrei, "An unconstrained optimization test functions collection," Adv. Modell. Optim., 10, 2008, pp. 147–161.
13. N. H. A. Ghani, N. S. Mohamed, N. Zull, S. Shoid, M. Rivaie, and M. Mamat, "Performance comparison of a new hybrid conjugate gradient method under exact and inexact line search," Journal of Physics: Conference Series, 890, 2017, pp. 1-6.
14. N. Hajar, N. 'Aini, N. Shapiee, Z. Z. Abidin, W. Khadijah, M. Rivaie, and M. Mamat, "A new modified conjugate gradient coefficient for solving system of linear equations," Journal of Physics: Conference Series, 890, 2017, pp. 1-6.
15. N. Shapiee, M. Rivaie, M. Mamat, and P. L. Ghazali, "A new family of conjugate gradient coefficient with application," International Journal of Engineering and Technology, 7(3.28), 2018, pp. 36-43.
16. N. Zull, M. Rivaie, M. Mamat, Z Salleh, and Z. Amani, "Global convergence properties of a new spectral conjugate gradient by using strong wolfe line search," Applied Math. Sci., 9(63), 2015, pp. 3105-3117.
17. N. Zull, N. 'Aini, S. Shoid, N. H. A. Ghani, N. S. Mohamed, M. Rivaie, and M. Mamat, "A conjugate gradient method with descent properties under strong Wolfe line search," Journal of Physics: Conference Series, 890, 2017, pp. 1-6.
18. R. Fletcher, and C. Reeves, "Function minimization by conjugate gradients," Comput. J., 7, 1964, pp. 149-154.
19. R. Fletcher, Practical Method of Optimization. New Jersey: John Wiley and Sons, 2013.
20. S. Shoid, N. Shapiee, N. Zull, N. H. A. Ghani, N. S. Mohamed, M. Rivaie, and M. Mamat, "The application of new conjugate gradient methods in estimating data," International Journal of Engineering and Technology, 7(2.14), 2018, pp. 25-27.
21. W. Khadijah, M. Rivaie, and M. Mamat, "A nonlinear conjugate gradient method with a strong global convergence property," SIAM Journal on Optimization, 10(1), 2017, pp. 177-182.
22. Y. H. Dai, and Y. Yuan, "A nonlinear conjugate gradient method with a strong global convergence property," SIAM Journal on Optimization, 10(1), 1999, pp. 177-182.
23. Y. Liu, and C. Storey, "Efficient generalized conjugate gradient algorithms, Part 1: Theory," Journal of Optimization Theory and Applications, 69(1), 1991, pp. 129-137.
24. Z. Wei, S. Yao, and L. Liu, "The convergence properties of some new conjugate gradient methods," Applied Mathematics and Computation, 183, 2006, pp. 1341-1350.

130.

Authors: **Yousef A.Baker El-Ebiary, Najeeb Abbas Al-Sammarraie**

Paper Title: **E-Learning Obstacles in Examination Module Process – MEDIU Case Study**

Abstract: The objective of this study is to identify the problems faced by students conducting an online exam run by the Al-Madinah International University (MEDIU). The research has been applied in the Department of Computer Science, Faculty of Computer Science and Information Technology with 86 students during the semester in February of the academic years 2017-2018. Data obtained from e-mail messages for students about the problems in the examination process are parsed descriptively. The data were read twice by different researchers and then organized into symbols. Topics that have been discovered are created as a result of assembling the encodings into a meaningful structure to display to the reader. The results showed that the following problems occurred in the process of students who passed the online tests, the level of literacy for students, the new testing environment for students, the presentation of questions in the computer environment and technical difficulties. The ability of students to use computers is an important factor in the emergence of problems. The main finding of the research is the need for a mentoring program to help students with Internet tests and online courses.

Index Terms: Distance learning, e-learning, on-line exam module, on-line learning, on-line testing.

References:

1. U. D. Ehlers, "Quality in e-learning from a learner's perspective," European Journal of Open, Distance and E-Learning, 7(1), 2004, pp. 1-7.
2. C. Ezeah, "Analysis of factors affecting learner participation in asynchronous online discussion forum in higher education institutions," Journal of Research and Method in Education, 4(5), 2014, pp. 8-14.
3. M. S. Farooq, "Perceptions of prospective teachers about factors influencing classroom management," Journal of Quality and Technology Management, 3(1), 2011, pp. 23-38.
4. S. Ghazinoory, and M. A. Mofrad, "Ranking different factors which affect E-Learning outcomes," International Journal of Computer Theory and Engineering, 4(2), 2012, pp. 234-237.
5. D. J. Hansen, "Book review: E-learning: Strategies for delivering knowledge in the digital age (Author: M. Rosenberg)," Educational Technology and Society, 6(3), 2003, pp. 80-81.
6. S. S. Noesgaard, and R. Ørngreen, "The effectiveness of e-learning: An explorative and integrative review of the definitions, methodologies and factors that promote e-learning effectiveness," Electronic Journal of E-Learning, 13(4), 2015, pp. 278-290.
7. P. C. Sun, R. J. Tsai, G. Finger, Y. Y. Chen, and D. Yeh, "What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction," Computers and Education, 50(4), 2008, pp. 1183-1202.
8. M. Tsinidou, V. Gerogiannis, and P. Fitsilis, "Evaluation of the factors that determine quality in higher education: An empirical study," Quality Assurance in Education, 18(3), 2010, pp. 227-244.
9. C. P., M. van der Vleuten, and E. W. Driessen, "What would happen to education if we take education evidence seriously?," Perspectives on Medical Education, 3(3), 2014, pp. 222-232.
10. M. Y. A. Yassin, "Electronic enterprise future for IT and business environments," International Journal on Contemporary Computer Research, 2(1), 2018, pp. 1-7.
11. Y. A. B. El-Ebiary, N. A. A. Sammarraie, Y. A. Moaiad, and M. M. S. Alzubi, "The impact of Management Information System in educational organizations processes," IEEE Conference on e-Learning, e-Management and e-Services, 2016, pp. 166-169.

631-633

131.

Authors: **Farzana Zakaria, Mohd Fadzil Abdul Kadir, Mohamad Afendee Mohamed, Ahmad Faisal Amri Abidin, Ahmad Nazari Mohd Rose**

Paper Title: **Distributed Denial of Service Attack Detection Using Wallaroo-Based Time-Series Analysis**

Abstract: Nowadays, with the growth of computer technologies, there had been many problems arise regarding security issues. The hackers tend to try to break into any website they desired and affect it either by modified, steal information or shutdown the server. Distributed Denial of Service (DDoS) attacks falls into one of the category of critical at-tacks. DDoS attacks can be described as temporarily deny several services of the end users. In general, it usually consumes network resources and overloads the system with undesired request. Thus, the network can be protected against such attacks using an Intrusion Detection System. This paper presents the method of detecting DDoS attacks by using the Wallaroo-based by analyzing the change of the time series data obtained from the weighted mean and weighed standard deviation of data. Wallaroo-based is about the distributed data processing framework for building high-performance streaming data applications. A streaming DDoS attack detector is constructed, which consumes a stream of request logs from a large group of servers and uses statistical anomaly detection to alert user when a server is

634-637

under attack.

Index Terms: Distributed Denial of Service, Time-series Analysis, Intrusion Detection System, Wallaroo.

References:

1. R. L. Rivest, A. Shamir, and L. Adleman, “A method for obtaining digital signatures and public-key cryptosystems,” Comm. ACM, 21(2), 1978, pp. 120-126.
2. N. Koblitz, “Elliptic curve cryptosystems,” Mathematics of Computations, 48(177), 1987, pp. 203-209.
3. M. A. Mohamed, “A survey on elliptic curve cryptography,” Applied Mathematical Sciences, 8(153-156), 2014, pp. 7665-7691.
4. L. Chi, and X. Zhu, "Hashing techniques: A survey and taxonomy," ACM Computing Surveys, 50(1), 2017, pp. 1-36.
5. T. Mahjabin, “A survey of distributed denial-of-service attack, prevention, and mitigation techniques,” International Journal of Distributed Sensor Networks, 13(12), 2017, pp. 1-33.
6. Y. Zhang, Q. Liu, and G. Zhao, "A real-time DDoS attack detection and prevention system based on per-IP traffic behavioral analysis," IEEE 3rd International Conference on Computer Science and Information Technology, 2010, pp. 163-167.
7. S. Ratnaparikhi, and A. Bhange, “DDOS attacks on network: Anomaly detection using statistical algorithm,” International Journal of Advanced Research in Computer Science and Software Engineering, 2(12), 2010, pp. 321-326.
8. W. Zhoua, W. Jia, S. Wen, Y. Xiang, and W. Zhou, “Detection and defense of application-layer DDoS attacks in backbone web traffic,” Future Generation Computer System Journal, 38, 2014, pp. 36-46.
9. M. Anjali, “Detection of DDoS attacks based on network traffic prediction and chaos theory,” International Journal of Computer Science and Information Technologies, 5(5), 2014, pp. 6502-6505.
10. M. Alenezi, and M. J. Reed, “Methodologies for detecting DoS/DDoS attacks against network servers,” 7th International Conference on Systems and Networks Communications, 2014, pp. 92-98.
11. C. Fachkha, E. B. Harb, and M. Debbabi, “Towards a forecasting model for distributed denial of service activities,” IEEE 12th International Symposium on Network Computing and Applications, 2013, pp. 110-116.
12. N. Tongguang, X. Gu, H. Wang, and Y. Li, “Real-time detection of application-layer DDoS attack using time series analysis,” Journal of Control Science and Engineering, 2013, 2013, pp. 1-6.
13. H. Liu, and M. S. Kim, “Real-time detection of stealthy DDoS attacks using time-series decomposition,” IEEE International Conference on Communications, 2010, pp. 1-6.
14. W. Q. Tao, and S. Z. Qing, “Detecting DDoS attacks against web server using time series analysis,” Wuhan University Journal of Nature Sciences, 11(1), 2006, pp. 165-180.
15. R. Fouladi, C. Kayatas, and E. Anarim,”Statistical measures: Promising features for time series based DDoS attack detection,” International Workshop on Computational Intelligence for Multimedia Understanding, 2018, pp. 1-9.
16. T. G. Ni, X. Q. Gu, and H. Y. Wang, “Detecting DDoS attacks against DNS servers using time series analysis,” TELKOMNIKA Indonesian Journal of Electrical Engineering, 12(1), 2014, pp. 753-761.
17. L. Li, and G. Lee, “DDoS attack detection and wavelets,” Telecommunication Systems, 28(3-4), 2005, pp. 435-451.
18. R. Karimazad, and A. Faraahi, “An anomaly-based method for DDoS attacks detection using RBF neural networks,” International Conference on Network and Electronics Engineering, 2011, pp. 44-48.
19. S. Kumarasamy, and R. Asokan, “Distributed Denial of Service (DDoS) attacks detection mechanism,” International Journal of Computer Science, Engineering and Information Technology, 1(5), 2011, pp. 39-49.

Authors:	**S. Suhailan, M.S. Mat Deris, S. Abdul Samad, M.A. Burhanuddin**
Paper Title:	**A Recommended Feedback Model of a Programming Exercise Using Clustering-Based Group Assistance**

Abstract: Many studies on automated programming assessment tools with automated feedbacks have been addressed to assist students rectifying their solution’s difficulty. While several studies have produced specific computational programming exercise's feedback using a static template analysis, there is still a lack of an automated programming feedback model that is dynamically enriched through a live assisted feedback from an expert. Thus, this research proposed a recommended feedback model on specific computational programming question using clustering-based live group assistance. The assisted feedback was done by an expert through a similar difficulty analysis of computer programs that were grouped together based on ordinal features using a K-Means clustering algorithm. An experiment was executed by responding to 7 program difficulty clusters that consists of 33 programs. Based on these inputs, the efficiency ratio result shows that the model can minimize expert's workload and can be effectively used as a recommender system. Furthermore, the efficiency of this model can be gradually intensified with more assisted feedbacks being provided by the expert user within other lab sessions.

Index Terms: K-Means, programming feedback, recommender system.

References:

1. J. Hullman, N. Diakorepoulos, E. Momeni, and E. Adar, "Content, context, and critique: Commenting on a data visualization blog," 18th ACM Conference on Computer Supported Cooperative Work and Social Computing, 2015, pp. 1170-1175.
2. R. Jain, And P. Sinha, "Content without context is meaningless," ACM International Conference on Multimedia, 2010, pp. 1259-1268.
3. E. R. Sykes, "Qualitative evaluation of the Java intelligent tutoring system," Journal of Systemics, Cybernetics, and Informatics, 3, 2006, pp. 49–60.
4. M. Hristova, A. Misra, M. Rutter, and R. Mercuri, "Identifying and correcting Java programming errors for introductory computer science students," ACM SIGCSE Bulletin, 35(1), 2003, pp. 153-156.
5. C. L. Jeffery, "Generating LR syntax error messages from examples," ACM Transactions on Programming Languages and Systems, 25(5), 2003, pp. 631-640.
6. J. S. Song, S. H. Hahn, K. Y. Tak, and J. H. Kim, "An intelligent tutoring system for introductory C language course," Computers and Education, 28(2), 1997, pp. 93-102.
7. W. L. Johnson, "Understanding and debugging novice programs," Artificial Intelligence, 42(1), 1990, pp. 51-97.
8. E. R. Sykes, and F. Franek, "An intelligent tutoring system prototype for learning to program JavaTM," 3rd IEEE Intl. Conf. Advanced Technologies, 2003, pp. 1-5.
9. H. C. Lane, Natural language tutoring and the novice programmer. PhD thesis, Pennsylvania: University of Pittsburgh, 2005.
10. M. Suarez, and R. Sison, "Automatic construction of a bug library for object-oriented novice Java programmer errors," International Conference on Intelligent Tutoring Systems, 2008, pp. 184-193.
11. R. Singh, S. Gulwani, and A. S. Lezama, "Automated feedback generation for introductory programming assignments," ACM SIGPLAN Conference on Programming Language Design and Implementation, 48(6), 2013, pp. 15-26.
12. B. E. Vaessen, F. J. Prins, and J. Jeuring, "University students' achievement goals and help-seeking strategies in an intelligent tutoring system," Computers and Education, 72, 2014, pp. 196-208.
13. Online Judge, Welcome to the UVa Online Judge. Available: https://uva.onlinejudge.org/.
14. Topcoder, Home. Available: https://www.topcoder.com/

132. **638-646**

15. Codechef, Programming competition, programming contest, online computer programming. Available: https://www.codechef.com/#.
16. Codeforces, Home. Available: http://codeforces.com/.
17. A. Papancea, J. Spacco, and D. Hovemeyer, "An open platform for managing short programming exercises," 9th Annual International ACM Conference on International Computing Education Research, 2013, pp. 47-52.
18. Programmr, Get good at programming! Available: http://www.programmr.com/.
19. P. Denny, A. L. Reilly, E. Tempero, and J. Hendrickx, "CodeWrite: Supporting student-driven practice of Java," 42nd ACM Technical Symposium on Computer Science Education, 2011, pp. 471-476.
20. A. Vihavainen, T. Vikberg, M. Luukkainen, and M. Pärtel, "Scaffolding students' learning using test my code," 18th ACM Conference on Innovation and Technology in Computer Science Education, 2013, pp. 117-122.
21. W. P. Dann, S. Cooper, and R. Pausch, Learning to Program with Alice (w/CD ROM). New Jersey: Prentice Hall, 2011.
22. K. Charntaweekhun, and S. Wangsiripitak, "Visual programming using flowchart," IEEE International Symposium on Communications and Information Technologies, 2006, pp. 1062-1065.
23. M. C. Carlisle, T. A. Wilson, J. W. Humphries, and S. M. Hadfield, "RAPTOR: A visual programming environment for teaching algorithmic problem solving," ACM SIGCSE Bulletin, 37(1), 2005, pp. 176-180.
24. S. McManus, Scratch Programming in Easy Steps: Covers Versions 2.0 and 1.4. Warwickshire: In Easy Steps, 2013.
25. A. J. Mendes, and M. J. Marcelino, "Tools to support initial programming learning," Int. Conf. Computer Systems and Technologies, 2006, pp. 16-6.
26. P. Brusilovsky, and S. Sosnovsky, "Individualized exercises for self-assessment of programming knowledge: An evaluation of QuizPACK," Journal on Educational Resources in Computing, 5(3), 2005, pp. 1–22.
27. M. Kolling, Introduction to Programming with Greenfoot. New Jersey: Prentice Hall, 2009.
28. G. Fessakis, E. Gouli, and E. Mavroudi, "Problem solving by 5–6 years old kindergarten children in a computer programming environment: A case study," Computers and Education, 63, 2013, pp. 87-97.
29. A. Sanmorino, "Development of computer assisted instruction (CAI) for compiler model: The simulation of stack on code generation," IEEE International Conference on Green and Ubiquitous Technology, 2012, pp. 121-123.
30. M. Thompson, "Evaluating the use of flowchart-based RAPTOR programming in CS0," 45th Annual Midwest Instruction and Computing Symposium, 2012, pp. 1-10.
31. S. Xinogalos, "Using flowchart-based programming environments for simplifying programming and software engineering processes," IEEE Global Engineering Education Conference, 2013, pp. 1313-1322.
32. S. Parkes, C. Ramsay, and A. Spark, "Code Rocket: Improving detailed design support in mainstream software development," IEEE International Conference on Computer and Management, 2011, pp. 1-4.
33. M. A. T. Noranis, and N. S. Azuan, "A multi-agent model for information processing in computational problem solving," International Journal of Modeling and Optimization, 3(6), 2013, pp. 490–494.
34. S. A. Naser, "An agent based intelligent tutoring system for parameter passing in Java programming," Journal of Theoretical and Applied Information Technology, 4(7), 2008, pp. 585–589.
35. A. N. Kumar, "Online tutors for C++/Java programming," ACM SIGCSE Bulletin, 37, 2005, pp. 387.
36. U. Rafique, S. Y. Huang, and C. Y. Miao, "Motivation based goal adoption for autonomous intelligent agents," IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology, 2011, pp. 54-57.
37. L. Jerinic, "Teaching introductory programming: Agent-based approach with pedagogical patterns for learning by mistake," International Journal of Advanced Computer Science and Applications, 5, 2014, pp. 60–69.
38. H. Hashim, and S. A. M. Noah, "A framework for semantic forum in e-learning education," IEEE International Conference on Semantic Technology and Information Retrieval, 2011, pp. 77-81.
39. N. Drljevic, and I. Boticki, "Leveraging social networks to increase motivation in learning programming," IEEE Croatian Society Electronics in Marine, 2012, pp. 341-344.
40. C. H. Lai, W. C. Lin, B. S. Jong, and Y. T. Hsia, "Java assist learning system for assisted learning on Facebook," IEEE Learning and Teaching in Computing and Engineering, 2013, pp. 77-82.
41. O. Tsur, and A. Rappoport, "What's in a hashtag? Content based prediction of the spread of ideas in microblogging communities," 5th ACM international conference on Web search and data mining, 2012, pp. 643-652.
42. A. A. Hamed, and X. Wu, "Does social media big data make the world smaller? An exploratory analysis of keyword-hashtag networks," IEEE International Congress on Big Data, 2014, pp. 454-461.
43. C. Treude, O. Barzilay, and M. A. Storey, "How do programmers ask and answer questions on the web? Nier track," IEEE 33rd International Conference on Software Engineering, 2011, pp. 804-807.
44. Y. Wang, H. Li, Y. Feng, Y. Jiang, and Y. Liu, "Assessment of programming language learning based on peer code review model: Implementation and experience report," Computers and Education, 59(2), 2012, pp. 412-422.
45. L. Ponzanelli, G. Bavota, M. D. Penta, R. Oliveto, and M. Lanza, "Mining StackOverflow to turn the IDE into a self-confident programming prompter," ACM 11th Working Conference on Mining Software Repositories, 2014, pp. 102-111.
46. C. F. Medina, J. R. P. Pérez, V. M. Á. García, and M. D. P. Ruiz, "Assistance in computer programming learning using educational data mining and learning analytics," 18th ACM Conference on Innovation and Technology in Computer Science Education, 2013, pp. 237-242.
47. A. Casamayor, A. Amandi, and M. Campo, "Intelligent assistance for teachers in collaborative e-learning environments," Computers and Education, 53(4), 2009, pp. 1147-1154.
48. T. Zimmermann, A. Zeller, P. Weissgerber, and S. Diehl, "Mining version histories to guide software changes," IEEE Transactions on Software Engineering, 31(6), 2005, pp. 429-445.
49. R. M. A. E. Aziz, A. E. Aboutabl, M. S. Mostafa, "Clone detection using DIFF algorithm for aspect mining," International Journal of Advanced Computer Science and Applications, 3(8), 2012, pp. 137–140.
50. G. Antoniol, K. Ayari, M. D. Penta, F. Khomh, and Y. G. Guéhéneuc, "Is it a bug or an enhancement? A text-based approach to classify change requests," Conference of the Center for Advanced Studies on Collaborative Research, 2008, pp. 304-318.
51. M. Alvares, T. Marwala, and F. B. D. L. Neto, "Application of computational intelligence for source code classification," IEEE Congress on Evolutionary Computation, 2014, pp. 895-902.
52. S. Chaki, C. Cohen, and A. Gurfinkel, "Supervised learning for provenance-similarity of binaries," 17th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2011, pp. 15-23.
53. T. T. Nguyen, H. A. Nguyen, N. H. Pham, J. A. Kofahi, and T. N. Nguyen, "Recurring bug fixes in object-oriented programs," 32nd ACM/IEEE International Conference on Software Engineering, 2010, pp. 315-324.
54. D. Lo, H. Cheng, J. Han, S. C. Khoo, and C. Sun, "Classification of software behaviors for failure detection: A discriminative pattern mining approach," 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2009, pp. 557-566.
55. S. Shivaji, E. J. Whitehead Jr, R. Akella, and S. Kim, "Reducing features to improve bug prediction," IEEE/ACM International Conference on Automated Software Engineering, 2009, pp. 600-604.
56. S. W. Thomas, M. Nagappan, D. Blostein, and A. E. Hassan, "The impact of classifier configuration and classifier combination on bug localization," IEEE Transactions on Software Engineering, 39(10), 2013, pp. 1427-1443.
57. X. Wang, Y. Dang, L. Zhang, D. Zhang, E. Lan, and H. Mei, "Can I clone this piece of code here?," 27th IEEE/ACM International Conference on Automated Software Engineering, 2012, pp. 170-179.
58. M. R. Sánchez, P. Kinnunen, C. P. Flores, and Á. V. Iturbide, "Student perception and usage of an automated programming assessment tool," Computers in Human Behavior, 31, 2014, pp. 453-460.
59. R. A. P. Queirós, and J. P. Leal, "PETCHA: A programming exercises teaching assistant," 17th ACM Annual Conference on Innovation and Technology in Computer Science Education, 2012, pp. 192-197.
60. H. Mungunsukh, and Z. Cheng, "An agent based programming language learning support system," IEEE International Conference on Computers in Education, 2002, pp. 148-152.
61. E. Stankov, M. Jovanov, A. M. Bogdanova, and M. Gusev, "A new model for semiautomatic student source code assessment," Journal of Computing and Information Technology, 21(3), 2013, pp. 185-194.

62. M. Mojzeš, M. Rost, J. Smolka, and M. Virius, "Feature space for statistical classification of Java source code patterns," IEEE 15th International Carpathian Control Conference, 2014, pp. 357-361.
63. S. Sharma, C. S. Sharma, and V. Tyagi, "Plagiarism detection tool "Parikshak"," IEEE International Conference on Communication, Information and Computing Technology, 2015, pp. 1-7.
64. U. Bandara, and G. Wijayarathna, "Source code author identification with unsupervised feature learning," Pattern Recognition Letters, 34(3), 2013, pp. 330-334.
65. E. L. Glassman, "Interacting with massive numbers of student solutions," 27th Annual ACM Symposium on User Interface Software and Technology, 2014, pp. 17-20.
66. K. Tam, "Debugging debugging," IEEE 35th Annual Computer Software and Applications Conference Workshops, 2011, pp. 512-515.
67. S. Safei, A. S. Shibghatullah, B. M. Aboobaider, and E. F. H. S. Abdullah, "Automated ranking assessment based on completeness and correctness of a computer program solution," International Journal of Engineering and Technology, 7(28), 2018, pp. 278-283.
68. S. Safei, A. S. Shibghatullah, B. M. Aboobaider, and M. Makhtar, "A hybrid model of ordinal ranking-based clustering using G+Rank K-Means," International Journal of Engineering and Technology, 7(2), 2018, pp. 41-44.

133.

Authors: **Syarilla Iryani A Saany, M Nordin A Rahman, Ahmad Fakhri Ab Nasir**

Paper Title: **Temporal Based Multimedia Data Archive**

Abstract: To manipulate multimedia data efficiently, data annotation must explain how the object is organized and how the parts of the object are represented. In a large scale multimedia data transaction environment, data annotations need to be linked with time series (temporal aspect) in order to provide effective data management. The aims of the temporal data management are to identify an appropriate data type for time and to provide query algebra temporal data. Web service is an emerging technology in sharing business logic, data and processes among various providers. It allows different applications from different resources to communicate with each other. This paper proposed a temporal based model for archiving a set of multimedia data which is developed under web services framework. The developed model can create a process and services dynamically without having to underlie the complicated interfaces.

Index Terms: multimedia data, software as a service, temporal database, web services.

References:

1. J. C. Hung, M. Takaziwa, and S. C.Chen, "Guest editorial: Large-scale multimedia data management: Techniques and applications," Multimedia Tools and Applications, 75(23), 2016, pp. 15341 – 15346.
2. M. N. A. Rahman, Y. M. Lazim, F. Mohamed, S. I. A. Saany, and M. K. M. Yusof, "Rules generation for multimedia data classifying using rough sets theory," International Journal of Hybrid Information Technology, 6(5), 2013, pp. 209-218.
3. C. Y. Huang, and C. H. Wu, "A web service protocol realizing interoperable internet of things tasking capability," Sensors, 16(9), 2016, pp. 1 – 23.
4. I. Khabou, M. Rouached, M. Abid, and R. Bouaziz, "Enhancing web services compositions with privacy capabilities," ACM 17th International Conference on Information Integration and Web-based Applications and Services, 2015, pp. 1-9.
5. M. Lin, and D. W. Cheung, "Automatic tagging web services using machine learning techniques," IEEE/WIC/ACM International Joint Conferences on Web Intelligence and Intelligent Agent Technologies, 2014, pp. 258-265.
6. A. V. Vathsala, and H. Mohanty, "A survey on checkpointing web services," ACM 6th International Workshop on Principles of Engineering Service-Oriented and Cloud Systems, 2014, pp. 11-17.
7. L. Purohit, and S. Kumar, "Web service selection using semantic matching," ACM International Conference on Advances in Information Communication Technology & Computing, 2016, pp. 1-5.
8. F. Mohamed, M. N. A. Rahman, Y. M. Lazim, and S. B. Mohamed, "Managing multimedia data: A temporal-based approach," International Journal of Multimedia and Ubiquitous Engineering, 7(4), 2012, pp. 73-86.
9. S. Hagedon, and T. Rath, "Efficient spatio-temporal event processing with SPARK," 20th International Conference on Extending Database Technology, 2017, pp. 570 – 573.
10. D. Petkovic, "Temporal data in relational database systems: A comparison," in New Advances in Information Systems and Technologies, Advances in Intelligence Systems and Computing, A. Rocha, A. Correia, H. Adeli, L. Reis, M. M. Teixeira, Eds. Cham: Springer, 2016, pp. 13 – 23.
11. M. Wieland, and M. Pittore, "A spatio-temporal building exposure database and information life-cycle management solution," International Journal Geo-Information, 6(4), 2017, pp. 1 – 20.
12. G. Klepac, "Integration of different analytical concepts on multimedia contents in service of intelligent knowledge extraction," Artificial Intelligence: Concepts, Methodologies, Tools and Applications, 4, 2016, pp. 2493 – 2522.

647-650

134.

Authors: **Ummie Khalthum Mohd Yusof, Mohd Asrul Hery Ibrahim, Mohd Rivaie, Mustafa Mamat, Mohamad Afendee Mohamed, Puspa Liza Ghazali**

Paper Title: **Hybrid Quasi-Newton with New Conjugate Gradient using Exact Line Search**

Abstract: Until now, Quasi-newton (QN) method is the most well-known method for solving unconstrained optimization problem. This method consumes lesser time as compared to Newton method since it is unnecessary to compute Hessian matrices. For QN method, BFGS is the best solver in finding the optimum solutions. Therefore, a new hybrid coefficient which possesses the convergence analysis computed by exact line search is introduced. This new hybrid coefficient is numerically proven by producing the best outcomes with least iteration number and CPU time.

Index Terms: Quasi-Newton method, sufficient descent condition and global convergence, unconstrained optimization.

References:

1. M. Al-Baali, "Numerical experience with a class of self-scaling quasi-newton algorithms," Journal of Optimization Theory and Applications, 3(96), 1998, pp. 533-553.
2. N. Aini, M. Rivaie, and M. Mamat, "A modified conjugate gradient coefficient with inexact line search for unconstrained optimization," AIP Conference Proceedings, 1787(1), 2016, pp. 1-6.
3. N. Andrei, "An unconstrained optimization test functions collection," Advance Modelling and Optimization, 1(10), 2008, pp. 147-161.
4. E. Dolan, and J. J. More, "Benchmarking optimization software with performance profile," Mathematic Programming, 91(2), 2002 pp. 201-213.
5. N. H. A. Ghani, M. Rivaie, and M. Mamat M, "A modified form of conjugate gradient method for unconstrained optimization problems," AIP Conference Proceedings, 1739(1), 2016, pp. 1-8.
6. N. Hajar, M. Mamat, M. Rivaie, and I. Jusoh, "A new type of descent conjugate gradient method with exact line search," AIP Conference Proceedings, 1739(1), 2016, pp. 1-8.
7. M. Hamoda, M. Rivaie, M. Mamat M, and Z. Salleh, "A conjugate gradient method with inexact line search for unconstrained optimization,"

651-655

Applied Mathematical Sciences, 9(37), 2015, pp. 1823-1832.
8. M. A. H. Ibrahim, M. Mamat, and L. W. June, "The hybrid BFGS-CG method in solving unconstrained optimization problems," 2014, 2014, pp. 1-6.
9. M. A. H Ibrahim, M. Mamat, and L. W. June, "BFGS method: A new search direction," Sains Malaysiana, 10(43), 2014, pp. 1591-1597.
10. M. A. H Ibrahim, M. Mamat, L. W. June, and A. Z. M. Sofi, "The algorithms of Broyden-CG for unconstrained optimization problems," International Journal of Mathematical Analysis, 8(52), 2014, pp. 2591-2600.
11. M. A. H. Ibrahim, M. Mamat, A. Z. M. Sofi, I. Mohd, and W. M. A. W. Ahmad, "Alternative algorithm of Broyden FAMILY for unconstrained optimization," AIP Conference Proceedings, 1309(1), 2008, pp. 670-680.
12. W. Khadijah, M. Rivaie, M. Mamat, and I. Jusoh, "A spectral KRMI conjugate gradient method under the strong-wolfe line search," AIP Conference Proceedings, 1739(1), 2016, pp. 1-8.
13. J. Long, X. Hu, and L. Zhang, "Improved Newton's method with exact line searches to solve quadratic matrix equation," Journal of Computational and Applied Mathematics, 222(2), 2008, pp. 645-654.
14. Z. Michalewicz, Genetic Algorithms + Data Structures = Evolution Programs. Berlin: Springer, 1996.
15. N. S. Mohamed, M. Mamat, F. S. Mohamad, and M. Rivaie, "A new coefficient of conjugate gradient methods for nonlinear unconstrained optimization," Jurnal Teknologi, 78(6-4), 2016, pp. 131-136.
16. J. L. More, B. S. Garbow, and K. E. Hillstrom, "Testing unconstrained optimization software," ACM Transaction on Mathematical Software, 7(1), 1981, pp. 17-41.
17. M. Rivaie, A. Abashar, M. Mamat, and I. Mohd I, "The convergence properties of a new type of conjugate gradient methods," Applied Mathematical Sciences, 8(1), 2014, pp. 33-44.
18. N. Shapiee, M. R. M. Ali, M. Mamat, and Z. Salleh, "A new simple conjugate gradient coefficient for unconstrained optimization," Applied Mathematical Sciences, 9(63), 2015, pp. 3119-3130.
19. S. Shoid, M. Rivaie, M. Mamat, and Z. Salleh, "A new conjugate gradient method with exact line search," Applied Mathematical Sciences, 9(96), 2015, pp. 4799-4812.
20. A. Z. M. Sofi, M. Mamat, I. Mohd, and M. A. H Ibrahim, "Fletcher Reeves Like CG Formula approach on Broyden Family Update," 3rd International Conference on Mathematical Sciences, 2014, pp. 527-532.
21. A. Z. M. Sofi, M. Mamat, I. Mohd, and Y. Dasril, "An alternative hybrid search direction for unconstrained optimization," Journal of Interdisciplinary Mathematics, 11(5), 2008, pp. 731-739.
22. Z. Wei, S. Yao and L. Liu, "The convergence properties of some new conjugate gradient method," Applied Mathematics and Computation, 183(2), 2006, pp. 1341-1350.
23. N. Zull, M. Rivaie, M. Mamat, Z. Salleh, and Z. Amani, "Global convergence of a new spectral conjugate gradient by using strong wolfe line search," Applied Mathematical Sciences, 9(63), 2015, pp. 3105-3117.
24. R. H. Byrd, and J. Nocedal, "A tool for the analysis of Quasi-Newton methods with application to unconstrained minimization," SIAM Journal on Numerical Analysis, 26(3), 1989, pp. 727-739.

135.

Authors: **Raja Hasyifah Raja Bongsu, Abdullah Mohammed, Mohamad Afendee Mohamed**

Paper Title: **Recent Trends in Channel Assignment Algorithms for Multi-Radio Multi-Channel in Wireless Mesh Network: A Systematic Review**

Abstract: Wireless Mesh Networks (WMN) are an attractive technology and has been widely accepted by many organizations due to features such as accessing and routing. The issues regarding capabilities of multi-radio multi-channel (MRMC) has been extensively studied to design an efficient algorithm for WMN. Channel assignment and various techniques have been designed and developed to improve the network performance of MRMC. This paper offers conceptual understanding through a systematic review by classifying channel assignment constraints and its proposed solution. The results from our study provide clear understanding of approaches reported by previous studies in solving channel assignment problem. The analysis offered variety of areas that can be explored in leveraging channel assignment techniques towards improving the network performances.

Index Terms: channel assignment, multi-radio multi-channel, topology design, wireless mesh network.

References:

1. F. Liu, and Y. Bai, "An overview of topology control mechanisms in multi-radio multi-channel wireless mesh networks," EURASIP J. Wirel. Commun. Netw., 2012(1), 2012, pp. 1–12.
2. W. Si, S. Selvakennedy, and A. Y. Zomaya, "An overview of Channel Assignment methods for multi-radio multi-channel wireless mesh networks," J. Parallel Distrib. Comput., 70(5), 2010, pp. 505–524.
3. E. Aryafar, O. Gurewitz, and E. W. Knightly, "Distance-1 constrained IEEE 27th Conference on Computer Communications, 2008, pp. 1436–1444.
4. M. Pióro, M. Żotkiewicz, B. Staehle, D. Staehle, and D. Yuan, "On max–min fair flow optimization in wireless mesh networks," Ad Hoc Networks, 13, 2014, pp. 134–152.
5. I. Cidon, and M. Sidi, "Distributed assignment algorithms for multi-hop packet-radio networks," IEEE Trans. Comput., 38(10), 1989, pp. 1353–1361.
6. Y. Qu, B. Ng, and W. Seah, "A survey of routing and channel assignment in multi-channel multi-radio WMNs," J. Netw. Comput. Appl., 65, 2016, pp. 120–130.
7. A. Musaddiq, Y. Zikria, R. Ali, I. U. Rasool, and S. W. Kim, "Congestion control routing using optimal channel assignment mechanism in wireless mesh network," 9th Int. Conf. Ubiquitous Futur. Networks, 2017, pp. 355–360.
8. M. P. K. Reddy, S. M. Kala, and B. R. Tamma, "Enhancing channel assignment performance in wireless mesh networks through interference mitigation functions," IEEE Int. Conf. Adv. Networks Telecommun. Syst., 2016, pp. 1–6.
9. Z. S. Mahmod, and A. H. Abdalla, "A scalable routing protocol for hybrid wireless mesh networks," International Conference on Computer and Communication Engineering, 2012, pp. 51–54.
10. A. Neumann, E. López, and L. Navarro, "Evaluation of mesh routing protocols for wireless community networks," Comput. Networks, 93, 2015, pp. 308–323.
11. Y. Xia, Z. Gong, and Y. Zeng, "A novel channel assignment scheme for multi-channel wireless mesh networks," International Conference on Future Generation Communication and Networking, 2010, pp. 15–22.
12. Y. Jin, W. Wang, Y. Jiang, and M. Yang, "On a joint temporal-spatial multi-channel assignment and routing scheme in resource-constrained wireless mesh networks," Ad Hoc Networks, 10(3), 2012, pp. 401–420.
13. J. Wang, W. Shi, and F. Jin, "On channel assignment for multicast in multi-radio multi-channel wireless mesh networks: A survey," China Commun., 12(1), 2015, pp. 122–135.
14. W. Jihong, and S. H. I. Wenxiao, "Partially overlapped channels- and flow-based end- to-end channel assignment for multi-radio multi- channel wireless mesh networks," China Commun., 1, 2016, pp. 1–13.
15. Y. Xia, Z. Gong, and Y. Zeng, "A novel channel assignment scheme for multi-channel," International Conference on Future Generation Communication and Networking, 2010, pp. 15–22.
16. R. Musham, S. M. Kala, P. Muthyap, P. K. R. Mule, and B. R. Tamma, "Near optimal channel assignment for interference mitigation in wireless mesh networks," IEEE Int. Conf. Adv. Networks Telecommun. Syst., 2016, pp. 1–6.
17. K. Liu, N. Li, and Y. Liu, "Min-interference and connectivity-oriented partially overlapped channel assignment for multi-radio multi-channel wireless mesh networks," 3rd IEEE Int. Conf. Comput. Commun., 2017, pp. 84–88.

18. J. Wang, W. Shi, K. Cui, F. Jin, and Y. Li, “Partially overlapped channel assignment for multi-channel multi-radio wireless mesh networks,” EURASIP J. onWireless Commun. Netw., 2015(1),2015, pp. 1-12.
19. B. Ziaeddin, and M. R. Meybodi, “An adaptive channel assignment in wireless mesh network: The learning automata approach,” Comput. Electr. Eng., 72, 2018, pp. 79–91.
20. Y. Peng, Y. Yu, L. Guo, D. Jiang, and Q. Gai, “An efficient joint channel assignment and QoS routing protocol for IEEE 802.11 multi-radio multi-channel wireless mesh networks,” J. Netw. Comput. Appl., 36(2), 2013, pp. 843–857.
21. K. M. Liu, M. A. Tao, Y. A. Liu, and K. H. Kou, “Fairness-oriented routing algorithm joint with power control and channel assignment for multi-radio multi-channel wireless mesh networks,” J. China Univ. Posts Telecommun., 21(5), 2014, pp. 55–60.
22. S. M. Gammar, and S. Ghannay, “JRCAP: A joint routing and channel assignment,” J. Netw. Syst. Manag., 24(1), 2016, pp. 140–160.
23. D. Chakraborty, and K. Debbarma, “Q-CAR : an intelligent solution for joint QoS multicast routing and channel assignment in multichannel multiradio wireless mesh networks,” Appl. Intell., 47(1), 2017, pp. 13–27.
24. Z. W. Wei, H. J. Feng, G. G. Wang, and R. L. Li, “Time-domain greedy heuristic approximation algorithm for multi-channel assignment in wireless mesh network,” Int. Conf. Cyber-Enabled Distrib. Comput. Knowl. Discov., 2017, pp. 113–117.
25. S. M. Kala, V. Sathya, M. P. K. Reddy, B. Lala, and B. R. Tamma, “A socio-inspired CALM approach to channel assignment performance prediction and WMN capacity estimation,” J. Netw. Comput. Appl., 125, 2018, pp. 42–66.

Authors:	**Amirul I Mohamad, Mohamad A Mohamed, Mokhairi Makhtar, Mustafa Mamat, Norziana Jamil, Marina Md Din**
Paper Title:	**A Framework for Experience Based User Authentication Technique for Minimizing Risk of Brute-Force Attacks**

Abstract: Authentication is the process of verifying somebody or something about who he claim he is. The current methods have some drawbacks, which is high cost for special tools, high maintenances, low reliability, lost or broken by user’s poor handling and needs for special expertise in operating the system. In addition, brute force attack has been used against the authentication system by using special software readily available. To address this issue, we proposed an experience-based authentication system, which makes use of user experience as a password during the verification process. In this study, we choose a list of mountains climbed by a user in combination with the year of visit as a password. The system consists of two parts, sign up and sign in. User registration is done during the sign up, whereas user authentication is carried out during the sign in process. Given the number of mountains around the world that is nearly a million in total, and by allowing user to have any combination of mountain, the risk of brute force attack can be minimize significantly. The ability of this system that can withstand such an attack from the outside could increase the current standard security level.

Index Terms: user authentication, experience based, knowledge based, brute-force attack.

References:

1. P. Wei, and Z. Zhou, “Research on security of information sharing in Internet of Things based on key algorithm,” Future Generation Computer Systems, 88, 2018, pp. 599-605.
2. D. Supriyadi, Personal and non-personal data in the context of big data. thesis, Netherlands: Tilburg University, 2017.
3. S. G. Langer, “Cyber-security issues in healthcare information technology,” Journal of Digital Imaging, 30(1), 2016, pp. 117-125.
4. M. Rajanna, H. C. Kantharaju, and M. G. Shiva, “Satellite networks routing protocol issues and challenges: A survey,” International Journal of Innovative Research in Computer and Communication Engineering, 2(2), 2014, pp. 153-157.
5. P. Gandotra, and R. K. Jha, “Device-to-device communication in cellular networks: A survey,” Journal of Network and Computer Applications, 71, 2016, pp. 99-117.
6. B. A. Muzakkari, M. A. Mohamed, M. F. A. Kadir, Z. Mohamad, and N. Jamil, “Recent advances in energy efficient-QoS aware MAC protocols for wireless sensor networks,” International Journal of Advanced Computer Research, 8(38), 2018, pp. 212-228.
7. L. Bonner, “Cyber risk: How the 2011 Sony data breach and the need for cyber risk insurance policies should direct the federal response to rising data breaches,” Washington University Journal of Law and Policy, 40, 2012, pp. 157-177.
8. R. L. Rivest, A. Shamir, and L. Adleman, “A method for obtaining digital signatures and public-key cryptosystems,” Comm. ACM, 21(2), 1978, pp. 120-126.
9. V. S. Miller, “Use of elliptic curves in cryptography,” Conference on the Theory and Application of Cryptographic Techniques, 1985, pp. 417-426.
10. M. A. Mohamed, “A survey on elliptic curve cryptography,” Applied Mathematical Sciences, 8(153-156), 2014, pp. 7665-7691.
11. H. Wimberly, and L. M. Liebrock, “Using fingerprint authentication to reduce system security: An empirical study,” IEEE Symposium on Security and Privacy, 2011, pp. 32–46.
12. D. Kumar, S. Singh, S. Pujari, and P. Mishra, “Fingerprint based attendance system using microcontroller and LabView,” International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, 4(6), 2015, pp. 5111–5121.
13. F. Battaglia, G. Iannizzotto, and L. L. Bello, “A biometric authentication system based on face recognition and RFID tags,” Mondo Digitale, 13(49), 2014, pp. 1–17.
14. J. M. H. Ali, and A. E. Hassanien, “An iris recognition system to enhance e-security environment based on wavelet theory,” Advanced Modeling and Optimization, 5(2), 2003, pp. 93–104.
15. P. M. Shende, and M. V. Sarode, “Multiple biometric system application: Iris and fingerprint recognition system,” International Journal of Application or Innovation in Engineering and Management, 5(3), 2016, pp. 34–38.
16. K. Saraswathi, B. Jayaram, and R. Balasubramanian, “Retinal biometrics based authentication and key exchange system,” International Journal of Computer Appl., 19(1), 2011, pp. 1–7.
17. M. Sabaghi, “Retinal identification system based on the combination of Fourier and wavelet transform,” Journal of Signal and Information Processing, 3(1), 2012, pp. 35–38.
18. T. R. Borah, “Retina and fingerprint based biometric identification system,” Mobile and Embedded Technology International Conference, 2013, pp. 74-77.
19. M. Lapère, and E. Johnson, “User authentication in mobile telecommunication environments using voice biometrics and smartcards,” in Intelligence in Services and Networks: Technology for Cooperative Competition, A. Mullery, M. Besson, M. Campolargo, R. Gobbi, R. Reed, Eds. Berlin: Springer, 1997, pp. 437-443.
20. M. Singhal, and S. Tapaswi, “Software tokens based two factor authentication scheme,” International Journal of Information and Electronics Engineering, 2(3), 2012, pp. 383-386.
21. J. Payne, G. Jenkinson, F. Stajano, M. A. Sasse, and M. Spencer, Responsibility and tangible security: Towards a theory of user acceptance of security tokens. Available: https://arxiv.org/pdf/1605.03478.pdf.
22. T. Hoang, “On the instability of sensor orientation in gait verification on mobile phone,” 12th International Joint Conference on e-Business and Telecommunications, 2015, pp. 148–159.
23. P. Kaur, and G. S. Aujla, “Review on: Human identification using GAIT recognition technique with PAL and PAL entropy and NN,” International Journal of Computer Science and Information Technologies, 5(3), 2014, pp. 3281 – 3285.
24. S. Sprager, and M. B. Juric, “An efficient HOS-based gait authentication of accelerometer data,” IEEE Transactions on Information Forensics and Security, 10(7), 2015, pp. 1486–1498.
25. P. Gawali, and P. V. D. Jadhav, “Rhythm based authentication model: Towards secure and convenient authentication for mobile devices,” International Journal of Advanced Research in Computer Science and Software Engineering, 6(2), 2016, pp. 343–346.

26. J. Trevathan, and A. Mccabe, "Remote handwritten signature authentication," 2nd International Conference on e-Business and Telecommunication Networks, 2005, pp. 335-339.
27. H. Srinivasan, S. N. Srihari, and M. J. Beal, "Machine learning for signature verification," in Computer Vision, Graphics and Image Processing, P. K. Kalra and S. Peleg, Eds. Berlin: Springer, 2006, pp. 761-775.
28. A. Levi, and M. U. Caglayan, "The problem of trusted third party in authentication and digital signature protocols," 12th Int'l Symp. on Computer and Information Sciences, 1998, pp. 317-324.
29. H. Fujii, and Y. Tsuruoka, "SV-2FA: Two-factor user authentication with SMS and voiceprint challenge response," IEEE 8th International Conference for Internet Technology and Secured Transactions, 2013, pp. 283–287.
30. Y. Albayram, M. M. H. Khan, A. Bamis, S. Kentros, N. Nguyen, and R. Jiang, "Designing challenge questions for location-based authentication systems: A real-life study," Hum. Cent. Comput. Inf. Sci., 5(17), 2015, pp. 1-28.
31. J. Kurmi, and A. Sodhi, "A survey of zero-knowledge proof for authentication," International Journal of Advanced Research in Computer Science and Software Engineering, 5(1), 2015, pp. 494-501.

137.

Authors: **Elissa Nadia Madi, Binyamin Yusoff**

Paper Title: **Modelling Perceptive-Based Information (Words) For Decision Support System**

Abstract: Uncertainty analysis can be broadly classified into quantitative and qualitative types. An example of qualitative uncertainty is 'words' as a natural language in which can mean different things to different people. Hence, there is always exist an uncertainty in words or linguistic-linked assessment that need to be considered and manage wisely. Such uncertainty is commonly involve in decision-making problem as it highly dependent on human perceptions. This study explores the relationship between two variables namely the level of uncertainty to the input and the changes of output based on multi criteria decision support system. There is positive relationship between these two variables. Based on that, the novel technique of generating the interval type-2 fuzzy membership functions is proposed where it can accurately map the decision makers' perceptions to the fuzzy set model which can reduce the potential of loss information. In literature, the output ranking of the system is presented as crisp number. However, this study proposed new form of output which is in interval form based on multi criteria decision support. Overall, this study provides a new insight of how we should not ignore the uncertainty when it affects the input by provide an intelligent way to map human perceptions to the system using fuzzy set.

Index Terms: fuzzy set, membership functions, multi criteria decision support.

References:

1. J. M. Mendel, "The perceptual computer: The past, up to the present, and into the future," Informatik-Spektrum, 41(1), 2018, pp. 15–26.
2. L. A. Zadeh, "The concept of a linguistic variable and its application to approximate reasoning-Part I," Inf. Sci., 8, 1975, pp. 199–249.
3. D. Wu, J. M. Mendel, and S. Coupland, "Enhanced interval approach for encoding words into interval type-2 fuzzy sets and its convergence analysis," IEEE Transactions on Fuzzy Systems, 20(3), 2012, pp. 499-513.
4. J. M. Garibaldi, and T. Ozen, "Uncertain fuzzy reasoning: A case study in modelling expert decision making," IEEE Trans. Fuzzy Syst., 15(1), 2007, pp. 16–30.
5. C.-T. Chen, "Extensions of the TOPSIS for group decision-making under fuzzy environment," Fuzzy Sets Syst., 114(1), 2000, pp. 1–9.
6. T. Ozen, and J. M. Garibaldi, "Effect of type-2 fuzzy membership function shape on modelling variation in human decision making," IEEE Int. Conf. Fuzzy Syst., 2004, pp. 971–976.
7. H. H. C. Wagner, "Novel methods for the design of general type-2 fuzzy sets based on device characteristics and linguistic labels survEys," International Fuzzy Systems Association World Congress and European Society of Fuzzy Logic and Technology Conference, 2009, pp. 537–543.
8. J. M. Mendel, and H. Wu, "Type-2 fuzzistics for symmetric interval Type-2 fuzzy sets: Part 2, inverse problems," IEEE Trans. Fuzzy Syst., 15(2), 2007, pp. 301–308.
9. L. A. Zadeh, "Fuzzy sets," Inf. Control, 8, 1965, pp. 338–353.
10. H.-J. Zimmermann, Fuzzy Set Theory - and Its Applications. Boston/Dordrecht/London: Kluwer Academic Publishers, 1991.
11. J. M. Mendel, R. I. John, and F. Liu, "Interval type-2 fuzzy logic systems made simple," Fuzzy Syst. IEEE Trans., 14(6), 2006, pp. 808–821.
12. J. Aladi, C. Wagner, and J. Garibaldi, "Type-1 or interval type-2 fuzzy logic systems-on the relationship of the amount of uncertainty and FOU size," IEEE Int. Conf. Fuzzy Syst., 2014, pp. 1–8.
13. M. Aruldoss, T. M. Lakshmi, and V. P. Venkatesan, "A survey on multi criteria decision making methods and its applications," Am. J. Inf. Syst., 1(1), 2013, pp. 31–43.
14. C.-L. Hwang, and K. Yoon, Multiple Attribute Decision Making: Methods and Application-A State of the Art Survey. Berlin: Springer Science and Business Media, 2012.
15. C. Kahraman, B. Öztayşi, and S. Çevik Onar, "A comprehensive literature review of 50 years of fuzzy set theory," Int. J. Comput. Intell. Syst., 9(sup1), 2016, pp. 3–24.
16. S. H. Zanakis, A. Solomon, N. Wishart, and S. Dublish, "Multi-attribute decision making: A simulation comparison of select methods," Eur. J. Oper. Res., 107(3), 1998, pp. 507–529.
17. M. Behzadian, S. Khanmohammadi Otaghsara, M. Yazdani, and J. Ignatius, "A state-of the-art survey of TOPSIS applications," Expert Syst. Appl., 39(17), 2012, pp. 13051–13069.
18. Z. Yue, "TOPSIS-based group decision-making methodology in intuitionistic fuzzy setting," Inf. Sci., 277, 2014, pp. 141–153.
19. E. N. Madi, J. M. Garibaldi, and C. Wagner, "An exploration of issues and limitations in current methods of TOPSIS and fuzzy TOPSIS," IEEE International Conference on Fuzzy Systems, 2016, pp. 2098–2105.

138.

Authors: **Nik Mawwardi Mohamed, Iskandar Hasan Tan Abdullah**

Paper Title: **Features of the National Front Losing in Malaysia's 14th General Election**

Abstract: National Front, with its concept of power-sharing between Malaysian's major ethnics, had managed to get resounding wins after wins in Malaysian General Election from 4th General Election to 11th General Election until it lost its two third majority in 12th General Election and 13th General Election and totally lost in 14th General Election. National Front's loss in Malaysia's 14th General Election baffled many political scientists who predicted it could still hold on to its simple majority despite the many governance issues plaguing it, especially the 1MDB mega scandal that implicated Najib Razak, particularly because there was a split in the opposition coalition, Harapan Pact, due to PAS not joining it and due to the lack of institutional reform on the part of the government. However, despite the existence of three-cornered fights in almost all of the seats contested, and despite the re-delienation of the seats which heavily favoured National Front, it still lost in Malaysia's 14th General Election. This study is an attempt at discussing on why National Front still lost in Malaysia's 14th General Election despite its usage of the tested racial and religious issues, despite the split in the opposition coalition and despite the lack of institutional reform. This study finds that National

Front's loss in Malaysia 14th General Election was due to the roles played by foreign institutions which were helped by the existence of a very strong internal leader, Mahathir Mohamad. Both of these factors help Harapan Pact overcome National Front's strategy of using three-cornered fights to win Malaysia's 14th General Election. At last in the end it was proven that the strategy, although did help National Front to win in 39 seats contested, failed to prevent National Front from losing in other seats in Malaysia's 14th General Election due to the highly strong intensity of people's rejection of both Najib Razak and National Front.

Index Terms: 1MDB, Harapan Pact, Institutional Reform, General Election, National Front, Opposition Coalition.

References:

1. R. L. Albritton, "A new paradigm of leader effectiveness for academic libraries: An empirical study of the Bass (1985) model of transformational leadership," in Leadership and Academic Librarians, T. F. Mech and G. B. McCabe, Eds. California: Greenwood Publishing, 1998, pp. 66-82.
2. A. Dastmalchian, M. Javidan, and K. Alam, "Effective leadership and culture in Iran: An empirical study," Applied Psychology, 50(4), 2001, pp. 532-558.
3. W. Case, "Comparative Malaysian leadership: Dato Seri Najib and Mahathir Mohamad," Asian Survey, 31(5), 2017, pp. 456-473.
4. T. Demir, and R. C. Nyhan, "The politics–administration dichotomy: An empirical search for correspondence between theory and practice," Public Administration Review, 68(1), 2008, pp. 81-96.
5. N. K. Denzin, The Research Act: A Theoretical Introduction To Sociological Methods. New York: McGraw-Hill, 1978.
6. Pakatan Harapan, Pek Manifesto. 2018, Available: http://pakatanharapan.com.my/diymanifesto.
7. Z. Haris, "Selepas pilihanraya umum ke-12, ke mana haluan politik Malaysia," in Cabaran Politik Baharu Malaysia, H. Zalkapli, Ed. Kuala Lumpur: Media Icon Sdn Bhd, 2009, pp. 47-50.
8. H. T. A. Iskandar, The perception of integrity among of three public agency in Terengganu. Research report, Selangor: Universiti Teknologi MARA, 2010.
9. H. T. A. Iskandar, and A. Y. Nur, Membelah Politik Bambu Cina Malaysia. Kelantan: Universiti Malaysia Kelantan Press, 2018.
10. I. Ismail, F. O. Muhammad, and D. Mustapha, Struktur Politik dan Pentadbiran Kerajaan Malaysia. Kuala Lumpur: Dewan Bahasa dan Pustaka, 2002.
11. S. Iyengar, and A. F. Simon, "New perspectives and evidence on political communication and campaign effects," Annual Review of Psychology, 51(1), 2000, pp. 149-169.
12. S. John, "A tectonic shift in Malaysian politics," in March 8: Eclipsing May 13, O. K. Beng, J. Saravanamuttu and L. H. Guan, Eds. Singapura: ISEAS Ltd, 2008, pp. 33-79.
13. I. Kotlyar, and L. Karakowsky, "Leading conflict? Linkages between leader behaviors and group conflict," Small Group Research, 37(4), 2006, pp. 377-403.
14. Malaysia Institue of Integrity and United Nations Development Programme, National integrity systems: A guiding framework. Kuala Lumpur: Perbadanan Nasional Berhad, 2007.
15. Reuters, Malaysia's Najib targets key support base at manifesto launch. 2018, Available: https://www.reuters.com/article/us-malaysia-election-manifesto/malaysias-najib-targets-key-support-base-at-manifesto-launch-idUSKBN1HE0LJ.
16. R. Samsuri, "Sorotan 2008: Tahun duka BN, gemilang Pakatan Rakyat," in Cabaran Politik Baharu Malaysia, H. Zalkapli, Ed. Kuala Lumpur: Media Icon Sdn Bhd, 2015, pp. 89-94.
17. P. Sivamurugan, Legasi kepimpinan politik Mahathir Muhammad. Research report, Kuala Lumpur: Universiti Malaya, 2004.
18. R. Omar, and S. Pandian, "Falsafah pemikiran politik Dr. Mahathir Mohamad," Jurnal Kemanusiaan, 4(2), 2006, pp. 78-91.
19. P. Sivamurugan, Legitimasi Politik di Malaysia: Satu Kajian Mengenai Kepimpinan Dr. Mahathir Mohamed. Kuala Lumpur: Utusan Publications, 2004.
20. R. M. Stogdill, Handbook of Leadership: A Survey of the Literature. New York: Free Press, 1974.
21. N. M. Y. Mohd, and S. A. R. Md, "The achievement of Barisan Nasional (BN) at parliamentary and state seats in the majority Chinese area in Sabah: A comparative analysis in GE-13 and GE-14," Jurnal Kinabalu Khas 2018, 2018, pp. 1-14.

139.

Authors: **N. Geethanjali, G.T.Prasanna kumari, M.Usha Rani**

Paper Title: **Evaluating Adaboost and Bagging Methods for Time Series Forecasting EEG Dataset**

Abstract: Time series forecasting is a paramount range from claiming machine learning that is frequently neglected. It is critical a direct result there are thus large portions prediction issues that include a period part. These issues are dismissed on account of it, this period part will lead to time series issues more troublesome to manage. An fascinating time series classification issue will be foreseeing if an subject's eyes need aid open alternately shut based best for their brain wave information (EEG). We will aggravate examination for Adaboost and Bagging methodologies on EEG dataset.

Keywords: Adaboost, Bagging, EEG.

References:

1. Agriculture soil classification and fertilizer recommendation using Adaboost and Bagging approaches: G.T.Prasanna Kumari; SSRN, ELSEVIER, January 2018.
2. Analysis of agriculture data using data mining techniques: application of big data: Jharna Majumdar, Sneha Naraseeyappa and Shilpa Ankalaki; Journal of Big Data, Majumdaret al. J Big Data (2017) 4:20 DOI 10.1186/s40537-017-0077-4.
3. An Overview of Data Mining Techniques Applied to Agricultural Soil Data: BalajiAglave, Razaullah Khan, Sanjay Sirsat; International Journal of Agriculture Innovations and Research Volume 3, Issue 2, ISSN (Online) 2319-1473, 11/09/2014.
4. A Study of AdaBoost and Bagging Approaches on Student Dataset: G. T. Prasanna Kumari, Dr. M. Usha Rani; International Research Journal of Advanced Engineering and Science, Volume 2, Issue 2, pp. 375-380, 2017, ISSN (Online): 2455-9024.
5. An Experimental Comparison of Three Methods for Constructing Ensembles of Decision Trees: Bagging, Boosting, and Randomization: THOMAS G. DIETTERICH; Machine Learning, 40, 139–157, Kluwer Academic Publishers. Manufactured in The Netherlands.
6. Multiple classifier system for EEG signal classification with application to brain–computer interfaces: Amir Ahangi, Mehdi Karamnejad, Nima Mohammadi, Reza Ebrahimpour, Nasoor Bagheri; Neural Comput & Applic (2013) 23:1319–1327 DOI 10.1007/s00521-012-1074-3.
7. A Data Mining Based On Ensemble Classifier Classification Approach for Edible Mushroom Identification: Muhammad Husaini; International Research Journal of Engineering and Technology (IRJET), Volume: 05 Issue: 07 | July 2018.
8. Covariate Shift Estimation based Adaptive Ensemble Learning for Handling Non-Stationarity in Motor Imagery related EEG-based Brain-Computer Interface: Haider Raza and Shang-Ming Zhou; Preprint submitted to Elsevier, May 4, 2018.
9. An Ensemble of Classifiers based Approach for Prediction of Alzheimer's Disease using fMRI Images based on Fusion of Volumetric, Textural and Hemodynamic Features: Fatima MALIK, Saima FARHAN, Muhammad Abuzar FAHIEM; Advances in Electrical and Computer Engineering Volume 18, Number 1, 2018.

140.

Authors: **Hamayoun Shahwani, Muhammad Ashraf, Muhammad Umar Chaudhry**

Paper Title: **Efficient Detouring of Vehicles after Accident**

Abstract: This paper considers the detouring of vehicles after accident. Detouring is necessary to mitigate traffic congestion around the accident area. This work is the continuation of our previous work in which we proposed an effective way of processing and dissemination of accident information to the vehicles moving towards the accident area. The work in this paper shows the efficiency of detouring of vehicles after receiving information about the accident. The results show that receiving information on-time will help in improving the efficiency of detouring of vehicles from the accident area and minimizing the traffic congestion.

Index Terms: VANET, detouring, efficiency.

References:

1. Y. L. Morgan, "Notes on DSRC & WAVE Standards Suite: Its Architecture, Design, and Characteristics,"in IEEE Communications Surveys & Tutorials, vol. 12, no. 4, pp. 504-518, Oct. 2010.
2. Jaehoon (Paul) Jeong, Shuo Guo, Yu (Jason) Gu, Tian He, and David H.C. Du, "Trajectory-Based Data Forwarding for LightTraffic Vehicular Ad Hoc Networks", IEEE Transactions on Parallel and Distributed Systems, Vol. 22, No. 5, 2011.
3. Jaehoon (Paul) Jeong, Jinyong Kim, Taehwan Hwang, Fulong Xu, Shuo Guo, Yu Jason Gu, Qing Cao, Ming Liu, and Tian He, "TPD: Travel Prediction-based Data Forwarding for light-traffic vehicular networks", ELSEVIER Computer Networks, 2015.
4. Jing Zhao and Guohong Cao "VADD: Vehicle-Assisted Data Delivery in Vehicular Ad Hoc Networks", IEEE Transactions on Vehicular Technology, Vol. 57, No. 3, 2008.
5. Celimuge Wu, Satoshi Ohzahata, and Toshihiko Kato, "A Broadcast Path Diversity Mechanism for Delay Sensitive VANET Safety Applications", Vehicular Networking Conference (VNC), 2011.
6. Celimuge Wu, Satoshi Ohzahata, Yusheng Ji, and Toshihiko Kato, "Trajectory-Assisted Delay-Bounded Routing with Moving Receivers in Vehicular Ad-hoc Networks", 11th Consumer Communications and Networking Conference (CCNC), 2014.
7. Guangyu Li and Lila Boukhatem, "An Intersection-based Delay Sensitive Routing for VANETs Using ACO Algorithm", 23rd International Conference on Computer Communication and Networks (ICCCN), 2014.
8. Dongyao Jia, Kejie Lu, Jianping Wang, Xiang Zhang, and Xuemin Shen, "A Survey on Platoon-Based Vehicular CyberPhysical Systems", IEEE Communication Surveys and Tutorials, Vol. 18, No. 1, 2016.
9. Zaydoun Y Rawashdeh and Syed Masud Mahmud, "A novel algorithm to form stable clusters in vehicular ad hoc networks on highways", EURASIP Journal on Wireless Communications and Networking, 2012.
10. Hamayoun Shahwani, Toan Duc Bui, Jaehoon (Paul) Jeong, and Jitae Shin, "A Stable Clustering Algorithm based on Affinity Propagation for VANETs", International Conference on Advanced Communication Technology (ICACT), 2017.
11. Rakesh Kumar and Mayank Dave, " A Review of Various VANET Data Dissemination Protocols", International Journal of U-and e- service, Science and Technology, Vol. 5, No. 3, September, 2012.
12. Xue Yang, Jie Liu, Feng Zhao and Nitin H. Vaidya, " A Vehicle-toVehicle Communication Protocol for Cooperative Collision Warning", International Conference on Mobile and Ubiquitous Systems: Networking and Services, 2004.
13. Ekram Hossain, Garland Chow, Victor C.M. Leung, Robert D. McLeod, Jelena Misic, Vincent W.S. Wong and Oliver Yang, " Vehicular telematics over heterogeneous wireless networks: A Survey", Computer Communication, 2010.
14. Pierpaolo Salvo, Mario De Felice, Francesca Cuomo and Andrea Baiocchi, " Infotainment traffic flow dissemination in an urban VANET", Globecom Ad Hoc and Sensor Networking Symposium, 2012.
15. Hamayoun Shahwani, Bien Aime Mugabarigira, Jitae Shin and Jaehoon (Paul) Jeong, "An Efficient Data Processing and Data Dissemination in Vehicular Networks", International Conference on Ubiquitous Information Management and Communication (IMCOM), 2018.

684-687

141.

Authors: **Anuradha Chokka, K Sandhya Rani**

Paper Title: **Improved Classification of Somatic Mutations Using AdaBoost With Feture Se-lection**

Abstract: The normal cells in human are transformed to cancer cells due to sequence of abnormal genetic events and cancer can be considered genetic changes of somatic mutations. To find the somatic mutations in accurate manner is the major challenge in cancer research. The main difficulty in cancer prediction analysis lies on tumor samples with the contamination and normal data samples. Identifying somatic mutations in cancer genes is a complex process. Feature extraction techniques retrieve significant features from the data and the classifiers which are developed based on these features improve the performance of the classifier. In this paper, to maximize the precision AdaBoost technique with feature selection is applied to detect the gene changes among the normal and tumor cells which are the causes of somatic mutations. The experimental results proved that AdaBoost with the feature selection method improves the performance of classifier in terms of precision, accuracy, and recall.

Keywords: Cancer Prediction, Somatic Mutations, AdaBoost T echnique, Feature Selection.

References:

1. LiTaiFang, Pegah Tootoonchi Afshar, Aparna Chhibber, Marghoob Mohiyuddin,"An ensemble approach to accurately detect somatic mutations using SomaticSeq", genomic Biology,16:197,December 2015.
2. R.Senkamalavalli and Dr.T.Bhuvaneswari, "Improved Classification Of Breast Cancer Data Using Hybrid Techniques" , International Journal of Advanced Engineering Research and Science (IJERS)Volume 8, No. 8, September-October 2017.
3. Jaree Thongkam, Guandong Xu, Yanchun Zhang and Fuchun Huang, "Breast Cancer Survivability via AdaBoost Algorithms", in Workshop on Health Data and Knowledge Management Volume 80 pages 55-64, Australia, January 2008..
4. Seema Sharma, Jitendra Agrawal , Sanjeev Sharma, "Classification Through Machine Learning Technique: C4.5 Algorithm based on Various Entropies", International Journal of Computer Applications (IJCA), Volume 82 – No 16, November 2013.
5. M A Muslim, S H Rukmana , E Sugiharti , B Prasetiyo and S Alimah, "Optimization of C4.5 algorithm-based particle swarm optimization for breast cancer diagnosis", Journal of Physics Conference series, IOP Publishing Ltd, 2018.
6. B.Padmapriya, T.Velmurugan,"Classification Algorithm Based Analysis of Breast Cancer Data", International Journal of Data Mining Techniques and Applications Volume 5, Issue 1, June 2016, Page No.43-49.
7. Zhi Cheng, Minoru Nakatsugawa, Chen Hu," Evaluation of classification and regression tree (CART) model in weight loss prediction following head and neck cancer radiation therapy ", Advances in Radiation and Ancology, Elsevier(2018) 3, 346–355.
8. Vipin Kumar and Sonajharia Minz," Feature Selection: A literature Review", Smart Computing,vol. 4, no. 3 , June 2014.
9. Ms. Shweta Srivastava, Ms. Nikita Joshi, Ms. Madhvi Gaur," A Review Paper on Feature Selection Methodologies and Their Applications", Volume 7, Issue 6 (June 2013), PP. 57-61.
10. Quang M. Trinh, Melanie Spears, John D. McPherson, "ISOWN: accurate somatic mutation identification in the absence of normal tissue controls Irina Kalatskaya". Genome Medicine, (2017) 9:59.
11. Jiarui Ding1, Ali Bashashati, Andrew Roth, Arusha Oloumi, Kane Tse, Thomas Zeng, "Feature-based classifiers for somatic mutation detection in tumour–normal paired sequencing data" , Bioinformatics,Vol. 28 no. 2 2012, pages 167–175.
12. Christos Boutsidis, Michael W. Mahoney,"Unsupervised Feature Selection for Principal Components Analysis", International Conference on Knowledge Discovery and Data Mining, USA, August 24–27, Pages 61-69,2008
13. Schapire RE, Singer Y (1999) "Improved boosting algorithms using confidence rated predictions", Journal Machine learning, 37 issue 3,1999,

688-692

297-336.
14. Liu H, Sun J, Liu L, Zhang H (2009) “Feature selection with dynamic mutual information. Pattern Recognition”, Pattern Recognition, 42, issue 7,2009, 1330-1339.
15. Anthony J. Viera, MD; Joanne M. Garrett, “Understanding Interobserver Agreement: The Kappa Statistic”, NCBI, May:37(5):360-3,2005.
16. Vivek Kumar, Brojo Kishore Mishra, Manuel Mazzara , Dang N. H. Thanh, Abhishek Verma ,“Prediction of Malignant & Benign Breast Cancer: A Data Mining Approach in Healthcare Applications”, http://arxiv.org/pdf/1902.03825.

142.

Authors: **M.Naga Venkatesh, Manish Mandhe, B Naresh Kumar, k ch Sri Kavya**

Paper Title: **Experimental Design and Illustration of Narrow Band Compact Microwave Notch Filter using EBG Structure**

Abstract: An exhaustive paper on Inverted U-shaped Electromagnetic-Band-Gap-(E/B/G) structure has remained investigated. The design has proved in an extremely compact size and volume. This compact ultra-wideband (UWB) Dual Notch Strainer through enhanced out-of-band presentation via quasi TEM EBG construction has been proposed. An analytical assessment consumes stayed approved out amongst the innovative building then the conservative mushroom-like EBG erection. The design is evaluated, modeled and simulated using Advanced Design System (ADS) by using Method of Momentum 2.5 D solver. The Dual Band Notch filter has been realized in a metal channel of 19mm x 53 mm in dimension. The Dual Notch Filter (DNF) with EBG structure has been demonstrated in S band at 2.4 GHz and C band at 5.1 GHz for Bluetooth and WLAN applications With a rejection of -40dB, performance of Dual Band Notch filter is compared by their lesser supplement loss also advanced coming back loss. The Imitations as well as Experimental consequences have been confirmed that the zone of the Inverted U-like construction has been carried out by Utilizing Broad Side Coupled.

Keywords: EBG Structures, Suspended StripLine (SSL).

References:

1. Menzel, W., and D. Talabur. "Semi lumped suspended stripline bandstop channels." Electronics letters 45, no. 17 (2009): 897-898.
2. Hsu, Wei-Hong, Mingchih Chen, and Min-Hua Ho. "Bandstop channel configuration utilizing the suspended stripline structure." In 2008 Asia-Pacific Microwave Conference, pp. 1-4. IEEE, 2008.
3. Lee, Dong Hyun, Jae Hee Kim, Jong Hun Jang, Yun Taek Im, and Wee Sang Park. "Suspended stripline over mushroom-like shorted metallic patches and its application to the double recurrence double polarization reception apparatus." In 2006 IEEE Antennas and Propagation Society International Symposium, pp. 3001-3004. IEEE, 2006.
4. Ho, Min-Hua, and Wei-Hong Hsu. "Bandstop channels of suspended stripline configuration utilizing the semi lumped component approach." In 2011 China-Japan Joint Microwave Conference, pp. 1-4. IEEE, 2011.
5. Ghahremani, Mehdi, Changiz Ghobadi, Javad Nourinia, Mubarak Sani Ellis, Farzad Alizadeh, and Bahman Mohammadi. "Scaled down UWB radio wire with double band dismissal of WLAN/WiMAX utilizing slitted EBG structure." IET Microwaves, Antennas and Propagation (2018).
6. C. Y. Hang, W. R. Arrangement, T. Qian, and T. Itoh, "High productivity transmitter front-closes incorporated with planar a PBG," in Asia-Pacific Microwave Conf. Burrow., Dec. 2000, pp. 888– 894.
7. J.- Y. Kim and H.- Y. Lee, "Wideband and minimized bandstop channel structure utilizing twofold plane superposition," IEEE Microw. Remote Compon. Lett, vol. 13, no. 7, pp. 279– 280, Jul. 2003.
8. Liu, B-W., Y-Z. Yin, Y. Yang, S-H. Jing, and A-F. Sun. "Minimized UWB bandpass channel with two indented groups dependent on electromagnetic bandgap structures." Electronics Letters47, no. 13 (2011): 757-758.
9. Rakesh Singh.K, Lei Zhu "Mixture MOM-Immittance approach for fullwave portrayal of printed strips and openings in layered waveguide and its applications" IEICE Trans.Electron.Vol.E87-C,No.5 May 2004

693-697

143.

Authors: **Adhithiyan M, Karmel A**

Paper Title: **Experimental Approach of Deep Learning in Toxicity Prediction**

Abstract: Humans are always exposed to various harmful, harmless chemicals everyday. toxicity prediction is the method to find the toxicity of the chemicals , ie it is Toxic or Non toxic. among all the applications the toxicity prediction isvery much important as it involves large amount of expenses, chemicals, labour, etc. in the world of big data and artificial intelligence, toxicity prediction can be done effectively using machine learning and deep learning instead of drug evaluations in lab such as cellular, animal and clinical methods. in this paper we review machine learning methods to predict toxicity and extention of toxicity testing using deep learning such as DNN. we discuss about the molecular descriptors and certain endpoints and its relationship.

Index Terms: Toxicity prediction, machine learning, deep learning, molecular descriptors, endpoints.

References:

1. Ajmani, S., Jadhav, K., and Kulkarni, S. A. (2006). Three-dimensional QSAR using the k-nearest neighbor method and its interpretation. J. Chem. Inf. Model. 46, 24–31. doi: 10.1021/ci0501286
2. Andersen, M. E., and Krewski, D. (2009). Toxicity testing in the 21st century: bringing the vision to life. Toxicol. Sci. 107, 324–330. doi: 10.1093/toxsci/kfn255
3. Baldi, P., Sadowski, P., and Whiteson, D. (2014). Searching for exotic particles in high-energy physics with deep learning. Nat. Commun. 5:4308. doi: 10.1038/ ncomms5308
4. Bartkova, J., Ho˘rejší, Z., Koed, K., Krämer, A., Tort, F., Zieger, K., et al. (2005). DNA damage response as a candidate anti-cancer barrier in early human tumorigenesis. Nature 434, 864–870. doi: 10.1038/nature 03482
5. Bender, A., Mussa, H., Glen, R. C., and Reiling, S. (2004). Molecular similarity searching using atom environments, information-based feature selection, and a naive Bayesian classifier. J. Chem. Inf. Comput. Sci. 44, 170–178. doi:10.1021/ci034207y
6. Chawla, A., Repa, J. J., Evans, R. M., and Mangelsdorf, D. J. (2001). Nuclear receptors and lipid physiology: opening the X-files. Science 294, 1866–1870. doi: 10.1126/science.294.5548.1866
7. Cire¸san, D. C., Meier, U., and Schmidhuber, J. (2012a). “Multi-column deep neural networks for image classification,” in Proceedings of the 2012 IEEE Conference on Computer Vision and Pattern Recognition (CVPR) (Providence, RI), 3642–3649. doi: 10.1109/CVPR.2012.6248110
8. Cire¸san, D. C., Giusti, A., Gambardella, L. M., and Schmidhuber, J. (2013). “Mitosis detection in breast cancer histology images with deep neural networks,” in 16th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2013), eds K. Mori, I. Sakuma, Y.Sato, C. Barillot, and N. Navab (Nagoya), 411–418. doi: 10.1007/978-3-642-40763-5_51
9. Cire¸san, D. C., Meier, U., Gambardella, L. M., and Schmidhuber, J. (2012b). “Deep big multilayer perceptrons for digit recognition,” in Neural Networks: Tricks of the Trade, eds G. Montavon, G. B. Orr, and K.-R. Müller (Heidelberg: Springer), 581–598.
10. Friedman, J., Hastie, T., and Tibshirani, R. (2010). Regularization paths for generalized linear models via coordinate descent. J. Stat. Softw. 33, 1–22. doi: 10.18637/jss.v033.i01
11. Glorot, X., Bordes, A., and Bengio, Y. (2011). “Deep sparse rectifier neural networks,” in Fourteenth International Conference on Artificial

698-704

Intelligence and Statistics (AISTATS 2011), eds G. J. Gordon, D. B. Dunson, and M. Dudík (Fort Lauderdale, FL), 315–323.
12. Graves, A., Mohamed, A. R., and Hinton, G. E. (2013). "Speech recognition with deep recurrent neural networks," in Proceedings of the 2013 IEEE International Conference on

144.	**Authors:**	**J.V. Thomas Abraham, A. Shahina, A. Nayeemulla Khan**	
	Paper Title:	**Enhancing Noisy Speech using WEMD**	
	Abstract: Speech signal distortion is unavoidable in real time applications. This distorted signal can adversely affect the performance of systems based on speech signals. Automatic speaker recognition (ASR) system performs well with clean speech signals while its performance degrades drastically with noisy speech. Enhancing the speech signal aims at improving the quality of the speech signal by reducing the noise contamination, thereby improving the performance of the ASR system. Noise could be background noise, reverberation, babble noise etc. In this paper, to improve the distorted speech signal, we propose a two stage speech enhancement algorithm where Empirical Mode Decomposition (EMD) with adaptive threshold in IMF selection is done at the first stage and then employ wavelet denoising (WD) in the second stage. The two stage denoising method is used to reduce noise in high and low frequencies. The effectiveness of the proposed algorithm is compared with a few baseline algorithms used for enhancement.		**705-708**

References:
1. K. K. Paliwal, B. Schwerin, and K. K. Wójcicki, "Speech enhancement using a minimum mean-square error short-time spectral modulation magnitude estimator," Speech Communication, vol. 54, pp. 282–305, 2012.
2. S. F. Boll, "Suppression of acoustic noise in speech using spectral subtraction," Acoustics, Speech and Signal Processing, IEEE Transactions on, vol. 27, pp. 113–120, 05 1979.
3. K. Hermus, P. Wambacq, and H. Van hamme, "A review of signal subspace speech enhancement and its application to noise robust speech recognition," EURASIP J. Appl. Signal Process., vol. 2007, no. 1, pp. 195–195, 2007.
4. M. A. Abd El-Fattah, M. I. Dessouky, A. M. Abbas, S. M. Diab, E.-S. M. El-Rabaie, W. Al-Nuaimy, S. A. Alshebeili, and F. E. Abd El-Samie, "Speech enhancement with an adaptive wiener filter," Int. J. Speech Technol., vol. 17, no. 1, pp. 53–64, 2014.
5. R. Tavares and R. Coelho, "Speech enhancement with non-stationary acoustic noise detection in time domain," IEEE Signal Processing Letters, vol. 23, pp. 6–10, 2016.
6. Y. Xu, J. Du, L. Dai, and C. Lee, "A regression approach to speech enhancement based on deep neural networks," IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 23, pp. 7–19, Jan 2015.
7. V. S. Cherkassky and S. Kilts, "Myopotential denoising of ECG signals using wavelet thresholding methods," Neural Networks, vol. 14, pp. 1129–1137, 2001.
8. D.-F. Guo, W.-H. Zhu, Z.-M. Gao, and J.-Q. Zhang, "A study of wavelet thresholding denoising," in WCC 2000 - ICSP 2000. 2000 5th International Conference on Signal Processing Proceedings. 16th World Computer Congress 2000, vol. 1, pp. 329–332, 2000.
9. N. Huang, Z. Shen, S. R. Long, M. C. Wu, H. H. Shih, Q. Zheng, N.-C. Yen, C. C. Tung, and H. H. Liu, "The empirical mode decomposition and the hilbert spectrum for nonlinear and non-stationary time series analysis," Proceedings of the Royal Society of London A: mathematical, physical and engineering sciences, vol. 454, pp. 903–995, 1998.
10. N. Chatlani and J. Soraghan, "Emd-based filtering (EMDF) of low-frequency noise for speech enhancement," IEEE Transactions on Audio, Speech and Language Processing, vol. 20(4), pp. 1158–1166, 2012.
11. L. ZÃčo, R. Coelho, and P. Flandrin, "Speech enhancement with EMD and hurst-based mode selection," Audio, Speech, and Language Processing, IEEE/ACM Transactions on, vol. 22, pp. 899–911, 2014.
12. A. Upadhyay and R. B. Pachori, "Speech enhancement based on mEMD-VMD method," Electronics Letters, vol. 53, no. 7, pp. 502–504, 2017.

145.	**Authors:**	**Vijay Kumar Vasantham, Vysali Meka, Ramya Krishna R, Rishika M**	
	Paper Title:	**User-Anomaly Detection in Telecommunication Using Big Data Analytics**	
	Abstract: Now a days the subsequent generation wi-fi networks are ordinary to paintings in absolutely robotized format to meet the expanding limit request and to serve customers with essential Nature of experience. initially, we use cellular community statistics (large information)— call element record—to dissect anomalous behaviour of mobile wireless network.We use unsupervised clustering strategies in particular okay-medoids clustering method and density primarily based clustering set of guidelines for detecting anomalies.We see that after the tool encounters high (everyday) hobby request at any area what's greater, time, it distinguishes that as anomaly.This permits in figuring out areas of hobby in the community for particular action which includes beneficial useful resource allocation, fault avoidance solution. in this paper, we use machine getting to know algorithms like k-medoids and density-based algorithms to perceive the anomalies.We prepare a neural-community-primarily based prediction version with anomalous and anomaly-loose information to feature the impact of anomalies in statistics.in this degree, we alternate our anomalous statistics to anomalous loose and we see that the error in prediction.

Key phrases: name element document, Anomaly Detection, system studying, community Analytics, wireless networks.

References:
1. Parwez, Md Salik, Danda B. Rawat, and Moses Garuba. large information analytics for person-activity assessment and consumer-anomaly detection in cell wi-fi network. IEEE Transactions on business Informatics thirteen.four (2017): 2058-2065.
2. Parwez, M. S., Rawat, D. B., & Garuba, M. (2017). large statistics analytics for client-interest assessment and patron-anomaly detection in cell wireless community. IEEE Transactions on business Informatics, 13(four), 2058-2065.
3. Parwez MS, Rawat DB, Garuba M. huge facts analytics for consumer-interest evaluation and patron-anomaly detection in cellular wi-fi community. IEEE Transactions on business Informatics. 2017 Aug;thirteen(four):2058-65.
4. Kumpulainen, P., & Hätönen, k. (2008). local anomaly detection for mobile network monitoring. statistics Sciences, 178(20), 3840-3859.
5. A. Zoha, A. Saeed, A. Imran, M. A. Imran, and A. Abu-Dayya, A SON solution for drowsing cellular detection the use of low-dimensional embedding of MDT measurements, in Proc. IEEE twenty fifth Annu. Int. Symp. Pers., Indoor, cellular Radio Commun., 2014, pp. 1626–1630.
6. G. M¨unz, S. Li, and G. Carle, site visitors anomaly detection the usage of k-manner Clustering, in Proc. GI/ITG Workshop MMBnet, 2007, pp. 1–8.
7. D. Pelleg, A. Moore (2000): X-approach: Extending ok-approach with efficient Estimation of the range of Clusters; ICML '00 complaints of the 17th international conference on device studying Pages 727-734.
8. C. Phua, V. Lee, ok. Smith, R. Gayler (2010); complete Survey of information Mining-based totally Fraud Detection studies, ICICTA '10 court cases of the 2010 global convention on smart Computation era and Automation quantity 1, p. 50-fifty three.
9. S. Cheng, J. Liu, X. Tang (2014); using unlabelled data to enhance Inductive fashions via Incorporating Transductive fashions; worldwide journal of advanced research in synthetic Intelligence quantity 3 quantity 2, p. 33-38.
10. B. Cici, M. Gjoka, A. Markopoulou, and C. T. Butts, on the decomposition of cell smartphone hobby patterns and their reference to city ecology, in Proc sixteenth ACM Int. Symp. mobile ad Hoc Netw. Comput., 2015, pp. 317–326.
11. S. Chernov, M. Cochez, and T. Ristaniemi, Anomaly detection algorithms for the napping cell detection in LTE networks, 2015 IEEE 81st Veh.

709-712

Technol. Conf., might also 2015, pp. 1–five.
12. Xiaomin Li, Di Li, tune Li, Shiyong Wang, Chengliang Liu, Exploiting business massive facts technique for Load Balancing in commercial enterprise wi-fi mobile Networks, get right of entry to IEEE, vol. 6, pp. 6644-6653, 2018.
13. Tuan A Tang, Lotfi Mhamdi, Des McLernon, Syed Ali Raza Zaidi, Mounir Ghogho, Deep Recurrent Neural community for Intrusion Detection in SDN-based totally Networks, community Softwarization and Workshops (NetSoft) 2018 4th IEEE conference on, pp. 202-206, 2018.
14. Chernov, Sergey, et al. Anomaly Detection Algorithms for the sound asleep mobile Detection in LTE Networks. 2015 IEEE 81st Vehicular technology conference (VTC Spring), 2015/10.1109/vtcspring.2015.7145707.
15. Tao, Xiaojing. web site visitors Balancing: a way for Exploiting system capability in wireless ad Hoc Networks/10.22215/2006-06283.

146.

Authors: **Edwin. A, Satish Pranav. D, Murugan Ganesh**

Paper Title: **Experimental and Finite Element Analysis of Laterally Loaded Pile**

Abstract: Piles have been widely used for supporting axial and lateral loads for a variety of civil engineering structures such as high rise buildings, transmission lines, bridge piers and port structures. In many cases, lateral loads govern the design of piles. Piles are commonly used to support bridge structures, tall buildings, transmission line towers etc. where poor subsoil conditions are encountered. To suit the various types of structures and their loading conditions, piles of different types, shapes and sizes are being used in practice, the safety of these structures mainly depends on the ability of supporting piles to resist large amount of lateral forces. These lateral forces may be due to the action of wind in case of onshore structures and due to combination of wind and wave action in case of offshore structures. In case of coastal structures, there are additional berthing forces.

Keywords: lateral loads, subsoil, lateral forces, wind and wave action

References:

1. Anderson. “Lateral load test on piles or drilled shafts under lateral load” (2003), European journal of geotechnical engineering.
2. Ashish Mehta. “Behaviour of laterally loaded piles” (2010), nternational journal of science and technology vol.2 (12) , 2010 , 7252-7254.
3. Basack “Simplified theoretical analyzes of response of a single pile embedded in cohesion less medium under lateral load” (2004)., International journal of science and technology.
4. BehrouzGatmiri . “A numerical modeling of pile groups under lateral loading in sand” (2011) Pan-Am CGS, Geotechnical conference.
5. Broms “Ultimate lateral resistance and lateral deflection for short rigid pile and long elastic pile” (1964).
6. Charles . “Lateral load test of one single pile and three pile groups” in Hong Kong (2001).
7. C.Y Lee “Estimating laterally loaded pile response” (2006),numerical and analytical methods in geomechanics.
8. Davisson and Gill “The behavior of laterally loaded pile in a two layer system analytically” (1963) ,American journal Engineering .
9. DipanjanBasu “Analysis of laterally loaded piles in a multi-layered soil deposit” .(2008), publication FHWA /IN/JTRP-2007/23 , Joint transportation research program
10. Ke Yang “Analysis laterally loaded drilled shafts in rock” (2006) , Canadian geotechnical journal .
11. MallikarjunaRao . “Ultimate lateral load capacity and ground line deflection of rigid piles in clays” (1999), European journal of geotechnical engineering .
12. Matlock and Reese “laterally loaded pile problem of beam on elastic foundation” (1960), Sciencedirect .
13. P.J. Ananthanathan . “Experimental and theoretical behaviour of laterally loaded piles” (2009), American journal of geotechnical engineering .
14. P.K. Basudhar . “This paper pertains to the development of a theoretical analysis of a laterally loaded pile using p–y diagram to predict the flexural behavior of a pile” (2009) , IGC , Guntur , India .
15. RongqingLi . “Analysisoflatellary loaded pile in layered soils” (2008), European Journal of geotechnical engineering ,vol, 3 .
16. Salini. U . “The behaviour of pile under lateral load is studied through laboratory experiments on model mild steel and aluminum pipe piles driven into dry river sand” (2009) , European journal of geotechnical engineering , vol . 14.
17. Vishwas A. Sawant . “Finite element analysis for laterally loaded piles in sloping ground” (2012), Coupled System mechanics, vol. 1 , no. 1 (2012), 59-78 .
18. William Higgins . “The Fourier finite element analysis of laterally loaded pile” (2011) .
19. ZakiaKhelifi. “Moleding the behavior of axially and laterally loaded pile with a contact model” (2011) , European journal of geotechnical engineering, vol. 16 (2011).
20. Zamri H. Chik . “Lateral behavior of single pile in cohessionless soil subjected to both vertical and horizontal load” (2009) , European journal of scientific research, ISSN 1450-216X, vol. 29, no.2 (2009), pp-194-205 .

713-719

147.

Authors: **B. Jyoshna, K.Subramanyam**

Paper Title: **Avant-garde: A Cryptographic Enciphering Method to Secure Data in Cloud**

Abstract: The primary problem in cloud is records storage. information may be saved in encrypted shape a good manner to restriction direct having access to, defensive statistics may be completed through the usage of enciphering techniques. Cloud offers huge potential of garage for cloud users. Many users using cloud to store the records however protection and privateness performs a major position. This paper proposes an enciphering algorithm which offers safety in cloud garage to defend statistics.

Index Terms: Cloud, encryption, storage, security

References:

1. V. Shoup, Why selected ciphertext safety subjects, Technical document RZ 3076, IBM Zurich, 1998. To be had: http://shoup.Internet/papers/expo.Pdf.
2. S. Goldwasser and S. Micali, Probabilistic encryption, magazine of laptop and gadget Sciences, vol. 28, no. 2,1984, pp. 270-299.
3. M. Bellare, A. Desai, D. Pointcheval, and P. Rogaway,relations among notions of protection for public key encryption schemes, Lecture Notes in computer generation, vol. 1462, pp. 26-45, 1998.
4. L.M. Vaquero, L. Rodero-Merino, J. Caceres, and M. Lindner. A destroy within the clouds: in the direction of a cloud definition, in: ACM SIGCOMMn computer communique assessment, 2008.P.50-fifty five.
5. M.B. Mollah, okay.R. Islam, and S.S. Islam. Subsequent generation of computing thru cloud computing technology, in: 2012 twenty fifth IEEE Canadian convention on electric laptop Engineering (CCECE), may additionally 2012.P.1-6.
6. Shucheng Yu, Cong Wang, Kui Ren, and Wenjing Lou. Accomplishing secure, scalable and terrific-grained data get admission to manipulate in cloud computing, in: IN-FOCOM, 2010 proceedings IEEE, 2010.P.1-nine.
7. Mythry Vuyyuru, Pulipati Annapurna, international magazine of tender Computing and Engineering (IJSCE), ISSN: 2231-2307, quantity-2, hassle-three, pp.244-246.
8. F.A.Alvi, B.S.Choudary, N.Jaferry,”evaluate on cloud computing safety issues & stressful conditions”, iaesjournal.Com, vol(2) (2012).
9. Dr Padmapriya, Subhasri, “reverse Caesar Cipher set of regulations to boom records safety”,worldwide magazine of Engineering tendencies and technology (IJETT), ISSN 2231-5381, volume 4, trouble four, pp.1067-1071.
10. Cong wang ,Qian wang, and Kui ren ,Wenjing lou,”making sure information storage safety in cloud computing” at IEEE(eight-1-4244-3876-

720-723

1/09)
11. Jagpal Singh,Krishnan lal and Dr.Anil kumar Shrotiya,magazine of computer generation and packages., ISSN 2231- 1270 volume 4, #1 (2012), pp. 1-7.
12. Kevin Hamlen, Murat kantarcioglu, Latifur Khan and Bhavani Thurasingham, global magazine of statistics protection and privateness, 4(2), p.P(39-51), April-June 2010. safety analysis of cloud computing: (http://cloudcomputing.Sys-con.Com/node/1330353).
13. VAMSEE KRISHNA YARLAGADDA and SRIRAM RAMANUJAM "information protection in cloud computing ", vol.2 (1), pp. (15-23) (2011)
14. Prof Swarnalatha , Nikhil kamnath, "assessment on information garage protection in cloud computing ", IJERT VOL 2 ,hassle eleven , NOV 2013.
15. R. Velumadhava Rao and ok. Selvamani,, "records protection worrying situations and Its answers in Cloud Computing" ICCC-2015 Procedia computer technology forty eight (2015) 204 – 209

148.

Authors: **Y.C. Savariah Xavier, I.Ajit**

Paper Title: **Cultural Identity through Magical Realism: Through the Looking Glass of Marquez's One Hundred Years of Solitude**

Abstract: Magical realism is the genre which deals with questioning of reality, rationality and progress, identity, magic and myth in relationship with particular contextual and political reflections. In this paper the researcher is about to deal with Marquez's One Hundred Years of Solitude through textual analysis method.

Keywords: Magical Realism, Latin America, Culture, Reality, Modernity

References:
1. Magic Realism, The Columbia Encyclopedia, 6th ed. Encyclopedia.com. 17 Jan. 2019
2. Garcia, Marquez, One Hundred Years of Solitude. London: Pan Books, 1978. Print.
3. One Hundred Years of Solitude, The Columbia Encyclopedia, 6th Ed, Encyclopedia.com, 15 Jan. 2019, ww.encyclopedia.com/arts/educational-magazines/one-hundred-years-solitude.

724-725

149.

Authors: **G Lakshmi Vara Prasad, Dr. C. Nalini**

Paper Title: **Dynamic Clustering Based on MAC Protocol for Power and Delay Aware Node Selection**

Abstract: Power and delay is a significant and essential issue, which in routing protocols for Wireless Sensor Networks (WSNs). Sensor nodes are broadcast in particular areas of the environment to identify events and establish WSN. These sensor nodes encompass limitations such as power, memory and computational capability. Since medium Access Control sub layer controls transmissions of the media and collisions, it has significant impact in reducing energy consumption and increasing the channel's efficiency. Therefore, the medium Access Control sub-layer plays an important task in WSN. By allocating channel duty, media access control sub-layer can reduce collisions; these measures can reduce energy utilization and enlarge the productivity of the channel. In this proposed paper, an improved medium access control protocol is proposed based on clustering technique. Using a multi-layered approach, this technique is intended to reduce competition and traffic in the network. The proposed algorithm consists of two steps including clustering and data transferring of each cluster. The proposed approach can significantly reduce collision, sleep-delay and idle listening. Computer simulation approach is used to evaluate the proposed algorithm. The results of simulation shows the proposed protocol is more efficient than the other existing protocols like MLMAC in terms of the following features: number of successfully sent packets, number of collision, energy consumption and sleep delay.

Keywords: Collision, Average end-end delay, Medium Access Control, Wireless Sensor Network.

References:
1. Jang B. et al, 2013. An Asynchronous Scheduled MAC Protocol for Wireless Sensor Networks. Computer Networks, No. 57, Vol. 1, pp 85-98.
2. A. ABBASI and M. YOUNIS, "A survey on clustering algorithms for wireless sensor networks," Computer communications, vol. 30, no 14, pp. 2826–2841, 2007.
3. G. Gupta and M. Younis, "LoadBalanced Clustering in Wireless Sensor Networks," Proceedings of the International Conference on Communication, vol. 3, pp. 1848–1852, Anchorage, Alaska, May 2003.
4. A. ABABNEH and E. ALZBOUN, "EDAC: A Novel EnergyAware Clustering Algorithm for Wireless Sensor Networks, " International Journal of Advanced Computer Science & Applications, vol. 1, no 7, pp. 333– 338, 2016.
5. W, Heinzelman, A. Chandrakasan and H. Balakrishnan, "Energyefficient communication protocol for wireless sensor," Proceeding of the Hawaii International,vol. 2, pp.10, Hawaii, January 2000.
6. R. Kaur, D. Sharma and N. Kaur, "Comparative Analysis Of Leach And Its Descendant Protocols In Wireless Sensor Network," International Journal of P2P Network Trends and Technology, vol. 3, Issue 1, pp. 51– 55, 2013
7. H. Kalkha, H. Satori and K. Satori, "Performance Analysis of AODV and LEACH Routing Protocol," The International Journal of Multidisciplinary Sciences ISSN: 24219606, Issue 2 , vol. 2 , pp. 56–60, February March 2016.
8. Abbasi A. et al, 2007. A Survey on Clustering Algorithms for Wireless Sensor Networks. Computer Communications, No. 30, pp 2826-2841.
9. Akyildiz I. F. et al, 2002. Wireless Sensor Network: A Survey. Computer Networks, No. 38, Vol. 4, pp 393-422.
10. Bhatia A. et al, 2016. TRM-MAC: A TDMA-based Reliable Multicast MAC Protocol for WSNs with Flexibility to Trade-off between Latency and Reliability. Computer Networks, vol. 104, pp 79–913.
11. Brownfield, M. I., 2006. Energy-Efficient Wireless Sensor Network MAC Protocol. University of Virginia, Virginia.
12. Cano C. et al, 2011. Low Energy Operation in WSNs: A Survey of Preamble Sampling MAC Protocols. Computer Networks, No. 55, vol. 15, pp 3351-3363.
13. Cordeiro, C. et al, 2011. Adhoc and Sensor Networks: Theory and Applications. 2nd ed. Singapore: World Scientific publishing Co. Pte. Ltd.
14. Dam, T. V. and Langendoen, K., 2003. An adaptive Energy-Efficient MAC Protocol for Wireless Sensor Networks. Proceedings of the 1st ACM Conference on Embedded Networked Sensor Systems (SenSys'03). Los Angeles, California, pp. 171-180.
15. Dinh T. et al, 2016. L-MAC: A Wake-up Time Self-Learning MAC Protocol for Wireless Sensor Networks. Computer Networks, vol. 105, pp 33-46.
16. Elhoiydi, A. and Decotignie, J., 2004. WiseMAC: An Ultra Low Power MAC Protocol for Multi-Hop Wireless Sensor Networks. Proceeding of the 9th International Symposium on Computers and Communications conference (ISCC). Alexandria, EGYPT, pp. 244-251.
17. Hefeida M. S. et al, 2013. CL-MAC: A Cross-Layer MAC Protocol for Heterogeneous Wireless Sensor Networks. Ad Hoc Networks, No. 11, Vol. 1, pp 213-225.
18. Incel O. D. et al, 2011. MC-LMAC: A Multi-Channel MAC Protocol for Wireless Sensor Networks. AdHoc Networks, No. 9, Vol. 1, pp 73-94.
19. Jang B. et al, 2013. An Asynchronous Scheduled MAC Protocol for Wireless Sensor Networks. Computer Networks, No. 57, Vol. 1, pp 85-98.
20. Jha M. K. et al, 2011. An Energy-Efficient Multi-Layer MAC (ML-MAC) Protocol for Wireless Sensor Networks. International Journal of Electronics and Communications (AEÜ), No. 65, Vol. 3, pp 209-216.
21. Kredo K. and Mohapatra, I. I., 2007. Medium Access Control in Wireless Sensor Networks. Computer Networks, No. 51, Vol. 4, pp 961-994.

726-732

22. Lu, G. et al, 2004. An Adaptive Energy Efficient and Low Latency MAC for Data Gathering in Wireless Sensor Networks. Proceedings of the 18th International Parallel and Distributed Processing Symposium (IPDPS). Santa Fe, New Mexico.
23. Pantazis N. A. et al, 2009. Energy Efficiency in Wireless Sensor Networks using Sleep Mode TDMA Scheduling. AdHoc Networks, No. 7, Vol. 2, pp 322-343.
24. Pesovic, U. M. et al, 2010. Single-Hop vs. Multi-Hop Energy Efficiency Analysis in Wireless Sensor Networks. Proceedings of the 18th Telekomunikacioni forum (TELFOR). Srbija, Beograd, pp. 471-474.
25. Polastre, J. et al, 2004. Versatile Low Power Media Access for Wireless Sensor Networks. Proceedings of the 2nd ACM Conference on Embedded Networked Sensor Systems (SenSys'04). Baltimore, USA, pp. 95-107.
26. Raghavendra C. S. and Singh S., 1999. PAMAS: Power Aware Multi-Access Protocol with Signaling for Ad-Hoc Network. ACM Communication Review, Vol. 28, pp 5-26.

150.

Authors: **P.vishal, L.K.snigdha, shahana bano,**

Paper Title: **An Efficient face recognition system using Local Binary Pattern**

Abstract: inside the photograph processing and imaginative and prescient ,face photograph assessment is the maximum crucial and critical studies movement. Facial picture examination is a important and first-rate studies factor within the pc vision and picture making geared up zone, which improvises confront location, confront acknowledgment, outward look investigation, and a few other associated applications. A primary increase for fruitful facial photo examination is to infer a probable facial portrayal from the first face photos. As of past due, nearby Binary styles (LBP) has gotten expanding consideration for facial depiction. neighborhood double example (LBP) is a nonparametric descriptor, which proficiently abridges the nearby structures of pix.on this paper there is probably a complete assessment of LBP which include extentions of that idea are explained .As a normal usage of the LBP approach, LBP-primarily based facial picture examination is widely evaluated, at the same time as its fruitful expansions, which manipulate extraordinary assignments of facial photograph research, are moreover featured

Keywords: nearby Binary patterns (LBP), confront location, confront acknowledgment, outward appearance exam, close by highlights.

733-735

References:

1. IEEE transactions on systems, man, and cybernetics—component c: programs and reviews, vol. forty one, no. 6, november 2011 765 local Binary patterns and Its software to Facial photograph analysis: A Survey
2. L. Wolf, T. Hassner, and Y.Taigman, ―Descriptor based totally strategies within the ild,‖ in Proc. ECCV, 2008.
3. J. Ruiz-del-sun, R. Verschae, and M. Correa, ―popularity of faces in unconstrained environments: A comparative study,‖ EURASIP journal on Advances in sign Processing, vol. 2009, pp. 1–20, 2009.
4. T. Ojala, M. Pietik¨ainen, and D.Harwood, ―A comparative take a look at of texture measures with category based on featured distribution,‖ sample Recog., vol. 29, no. 1, pp. 51–fifty nine, 1996. [5] T. Ahonen, A. Hadid, and M. Pietik¨ainen, ―Face reputation with nearby binary styles,‖ in Proc. Euro. Conf.Comput. Vis., 2004, pp. 469–481.
5. A. Hadid, M. Pietik¨ainen, and T. Ahonen,―A discriminative feature space for detecting and spotting faces,‖ in Proc. Int. Conf. Comput. Vis. sample Recog., 2004, pp. 797– 804.
6. D. P. Huijsmans and N. Sebe, content material-primarily based indexing performance: a class length normalized precision, remember, generality assessment, ‖ in Proc. Int. Conf. photo method., 2003, pp. 733–736.
7. D. Grangier and S. Bengio, ―A discriminative kernel-primarily based approach to rank photos from textual content queries,‖ IEEE Trans. pattern

151.

Authors: **Dinesh Babu K, Mercy Shanthi R, Suji D**

Paper Title: **Effect of Fiber Pattern in Strength of Light Transmitting Concrete**

Abstract: Light transmitting concrete is a latest advancement in modern construction world. The development of a light transmitting concrete using plastic optical fiber (POF) is makes concrete sensible, sustainable and energy efficient by utilization of natural sunlight. But strength properties of light transmitting concrete are yet to be improved. It is important to focus on the problems related to the mechanical strength of the light transmitting concrete and to develop a high strength concrete with increased performance in terms of transparency, sensitivity, thermal conductivity and self-health monitoring. Our aim is to improve the strength properties of light transmitting concrete by optimizing the fiber arrangement pattern. This research focused its attention on finding solution to reduce the crack in light transmitting concrete by optimizing the area of fiber to the area of concrete and also by changing the pattern of fiber alignment in the concrete. Root cause for cracking is reduced by eliminating fibers from crack initiation points and there by enhances the strength of light transmitting concrete wall panels.

Keywords: Light Transmitting Concrete, Plastic optic fiber, Strength, Crack.

References:

736-739

1. Mann S., Nanotechnology and Construction. European Nanotechnology Gateway - Nanoforum Report, Institute of Nanotechnology, November 2006, 2-10
2. Balaguru, P. N. (2005), "Nanotechnology and Concrete: Background, Opportunities and Challenges." Proceedings of the International Conference – Application of Technology in Concrete Design, Scotland, UK, p.113-122.
3. ASTM International. ASTM E2456: Standard Terminology Relating to Nanotechnology. West Conshohocken, PA, 2006.
4. Birgisson, B. Nanomodification of Cement Paste to Improve Bulk Properties of Concrete. Presented at the National Science Foundation Workshop on Nanomodification of Cementitious Materials, University of Florida, Gainesville, August 8-11, 2006.
5. Composite Fibers with Carbon Nanotubes Offer Improved Mechanical and Electrical Properties, http://www.eurekalert.org/pub_releases/2004-03/giot-cfw032604.php
6. Sobolev, K. and Gutierrez, M. F. (2005). "How Nanotechnology can Change the Concrete World,"American Ceramic Society Bulletin, vol. 84, no. 10, p. 14-16.
7. He, X., and Shi, X. Chloride Permeability and microstructure of Portland Cement Mortars Incorporating Nanomaterials. In Transportation Research Record: Journal of the Transportation Research Board, No. 2070. Transportation Research Board of the National Academies, Washington, DC, 2008, pp. 13-21.
8. Li, G., "Properties of High-Volume Fly Ash Concrete Incorporating Nano-SiO2."Cement and Concrete Research, vol.34, p.1043-1049, 2004.
9. Savas, B. Z. Effects of Microstructure on Durability of Concrete. PhD thesis. North Carolina State University, Raleigh, 2000.
10. Metaxa, Z.S.; Konsta-Gdoutos, M.S.; and Shah, S.P.,"Carbon Nanotubes Reinforced Concrete, "Nanotechnology of Concrete: The Next Big Thing is Small, SP-267, American Concrete Institute, Farmington Hills, MI, 2009, pg. 11-20.
11. Study on Light Transmittance of Concrete Using Optical Fibers and Glass Rods. IOSR Journal of Mechanical and Civil Engineering (IOSR-

JMCE) e-ISSN: 2278-1684, p-ISSN: 2320-334X PP 67-72
12. Basics of Light Transmitting Concrete Global Advanced Research Journal of Engineering, Technology and Innovation (ISSN: 2315-5124) Vol. 2(3) pp. 076-083, March, 2013
13. Optical Fibres in the Modeling of Translucent Concrete Blocks M.N.V.PadmaBhushan, D.Johnson, Md. Afzal Basheer Pasha And Ms. K. Prasanthi / International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622 www.ijera.com Vol. 3, Issue 3, May-Jun 2013, pp.013-017
14. Study on Smart Transparent Concrete Product and Its Performance The 6th International Workshop on Advanced Smart Materials and Smart Structures Technology ANCRiSST2011 July 25-26, 2011, Dalian, China
15. An experimental work on light transmitting concrete. International Journal of Advance Engineering and Research Development (IJAERD) Volume 1, Issue 5 May 4014.
16. An Study on Transparent Concrete: A Novel Architectural Material to Explore Construction Sector, International Journal of Engineering and Innovative Technology (IJEIT) volume 2, Issue 8, February 2013.
17. Carbon Nanotubes and Nanofibres for enhancing the mechanical properties of nanocomposite cementitious materials, Journal of Materials in Civil Engineering, Vol.23 No.1, July 1,2011
18. Study on smart transparent concrete product and its performances, School of Civil Engineering, Dalian University of Technology, Dalian 116024, China.

	Authors:	**Aarthi D, Viswanathan V**
	Paper Title:	**Disambiguation of Named Entity with Supervised Technique Over a Knowledge Base**

Abstract: Named Entity Disambiguation (Entity linking) is the task to link the entity mentioned in the query search with the appropriate entity in the repository without any name disambiguation. It can facilitate many tasks such as list of people or population in the repository and query processing and information retrieval. This task is a very challenging because of ambiguity and name conventions. In this paper we address a problem of named entity matching. In order to overcome this challenge we use Query search technique that implemented here is Name Dictionary based technique. The search key is extracted and compared with all the keys from the dictionary and the appropriate value is fetched and system throws as a result. Entity linking provides the information both explicitly and implicitly. Explicit linking provides the information beyond the knowledge base whereas implicit linking provides the information only from the knowledge base. Based on the information obtained we can also add the ratings and the comments. Based on the comments and the ratings the data that provided in the repository can also be managed. Our experiments shows the promising results in extracting the Candidate entities and graph based outcome if the user performs sequence of query search on single namesake.

Keywords: Named Entity, Candidate Entity, Disambiguation, Explicit Linking, Implicit Linking.

References:

1. W. Shen, J. Wang, and J. Han, “Entity linking with a knowledge base: Issues, techniques, and solutions,” IEEE Trans. Knowl. Data Eng., vol. 27, no. 2, pp. 443–460, 2015.
2. J. Guo, G. Xu, X. Cheng, and H. Li, “Named entity recognition in query,” Sigir, pp. 267–274, 2009.
3. E. Agichtein and L. Gravano, “Snowball: Extracting Relations from Large Plain-Text Collections,” Proc. fifth ACM Conf. Digit. Libr. - DL ’00, vol. I, no. 58, pp. 85–94, 2000.
4. R. Wongso and D. Suhartono, “A Literature Review of Question Answering System using Named Entity Recognition,” pp. 274–277, 2016.
5. D. Nadeau and S. Sekine, “A survey of named entity recognition and classification,” Lingvisticae Investig., vol. 30, no. 1, pp. 3–26, 2007.
6. Y. Sari, M. F. Hassan, and N. Zamin, “Creating extraction pattern by combining part of speech tagger and grammatical parser,” ICCTD 2009 - 2009 Int. Conf. Comput. Technol. Dev., vol. 1, pp. 515–519, 2009.
7. J. Zhu, “An adaptive approach for web scale named entity recognition,” Web Soc. 2009. SWS’09. 1st IEEE Symp., pp. 41–46, 2009.
8. A. Bellandi, S. Nasoni, A. Tommasi, and C. Zavattari, “Ontology-driven relation extraction by pattern discovery,” 2nd Int. Conf. Information, Process. Knowl. Manag. eKNOW 2010, pp. 1–6, 2010.
9. “Sporcle.” [Online]. Available: https://www.sporcle.com/games/Torgo/same-name-different-person.
10. “Namesake persons.” http://www.ebaumsworld.com/pictures/same-name-different-person/84311825/.
11. A. Moro, A. Raganato, and R. Navigli, “Entity Linking meets Word Sense Disambiguation : a Unified Approach,” Trans. Assoc. Comput. Linguist., vol. 2, pp. 231–244, 2014.
12. M. Tkatchenko, A. Ulanov, and A. Simanovsky, “Classifying wikipedia entities into fine-grained classes,” Proc. - Int. Conf. Data Eng., pp. 212–217, 2011.
13. “Stopwords removal.” http://stackoverflow.com/questions/27685839/removing-stopwords-from-a-string-in-java.
14. N. Phiwngam and T. Senivongse, “Knowledge Enhancement of Text and Visualization Based on DBpedia Dataset,” Inf. Sci. Control Eng. (ICISCE), 2016 3rd Int. Conf., pp. 433–438, 2016.
15. P. G. Jose, S. Chatterjee, M. Patodia, S. Kabra, and A. Nath, “Hash and Salt based Steganographic Approach with Modified LSB Encoding,” Int. J. Innov. Res. Comput. Commun. Eng., vol. 4, no. 6, pp. 2257–2263, 2016.
16. W. Wu, H. Li, H. Wang, and K. Q. Zhu, “Probase: A probabilistic taxonomy for text understanding,” Proc. 2012 ACM SIGMOD …, pp. 481–492, 2012.
17. S. Mohammed, B. Abdellah, and O. El Beqqali, “based Tweet Entity Linking,” pp. 3–9, 2016.
18. “same first names.” https://www.quora.com/What-are-the-most-common-first-names-of-U-S-Presidents
19. “Famous people with same real names.” [Online]. Available: http://www.ranker.com/list/famous-people-with-the-same-name/celebrity-lists.
20. “menta_floss.” [Online]. Available: http://mentalfloss.com/article/58702/11-notable-people-who-shared-their-names-famous-contemporaries.
21. “Adding external jars”, https://jsumon.wordpress.com/2009/11/24/adding-external-jar-or-library.
22. “Working with sqlyog”, http://etutorials.org/Programming/PHP+MYSQL.
23. W. Shen, J. Wang, P. Luo, and M. Wang, “A graph-based approach for ontology population with named entities,” Proc. 21st ACM Int. Conf. Inf. Knowl. Manag. - CIKM ’12, p. 345, 2012.
24. “Testing with Selenium IDE.” http://toolsqa.com/selenium-ide/download-and-install-selenium-ide/

152. **740-745**

	Authors:	**M Sujatha, P. Nagarjuna, A. Bala Sai Ram, A. Hemanth Venkata Sai, K. Tarun, Sk Hasane Ahammad**
	Paper Title:	**Visible spectroscopy analysis of fat content in milk using LabVIEW**

Abstract: In Present generation there is drastic increase in the production of Milk which eventually made increment of Milk Centres in different areas. Since most of the milk come from farmers ,the probability of misrepresenting the information is very high where farmers do not understand ,In order to make the system very transparent to all the people who deposit the milk, The paper is designed to automate the measuring of the fat content present in the milk with the help of Embedded Technology. This System is designed in such a way to work without any human interaction. The system used the concept of diffraction of light to calculate the fat percentage of the milk using LDR and LASER (Spectroscopy Concept). The System also used the Unique identification technique using RFID. The System will also

153. **746-750**

store the information of the depositors for future references of data. This being a completely automated system, this will decrease the amount of any illegal activities performed by the vendors at the Milk Station

Keywords: RFID, LDR, LASER

References:

1. El-abassy, Rasha & Eravuchira, Pinkie & Donfack, Patrice & von der Kammer, B & Materny, Arnulf. (2011). Fast determination of milk fat content using Raman spectroscopy. Vibrational Spectroscopy - VIB SPECTROSC. 56. 3-8. 10.1016/j.vibspec.2010.07.001.Kessler, H. G.: Food and Bio Process Engineering - Dairy Technology, Verlag A. Kessler, München, 2002.
2. Harold Macy, W.B. Combs & C.H. Eckles,‖Milk & Milk Products‖, TMH, Fourth edition 1990.
3. JurjenDraaijer, ―Milk Producer group Resource Book a practical guide to assist milk producer groups‖, Pp.37-40.
4. Kessler, H. G.: Food and Bio Process Engineering - Dairy Technology, Verlag A. Kessler, München, 2002.
5. Laurence A. Nafie, Recent advances in linear and non-linear Raman spectroscopy. Part XI, Journal of Raman Spectroscopy, 48, 12, (1692-1717), (2017).
6. RupakChakravarty, a paper on‖ IT at Milk collection centers in Cooperative Diaries: The National Dairy Development Board Experience‖, pp.37-47.
7. Stang, M.: Zerkleinern und Stabilisieren von Tropfen beim mechanischen Emulgieren, Universität Karlsruhe (TH), 1998. (PDF) Homogenisation in the dairy process - conventional processes and novel techniques.
8. SubhashBhatnagar, ―Empowering Dairy Farmers: A Portal and Dairy Information and Services Kiosk‖.
9. Wolf, W.H., ―Hardware-software co-design of embedded systems‖, IEEE Jul 1994, Page(s): 967 – 989.
10. Kejal Shah, Rajeshri Kelkar,Amruta Sarda,M.S.Chavan2-"Photometric Based Sensor for Fat Detection in Fresh Milk",International Journal of Innovative Research in Computer and Communication Engineering 2015, 2320-9801
11. AK AUSTRALIANO, The lactometer and Analysis of Milk, TOWN AND COUNTRY JOURNAL.
12. Mahesh C,Waghmare,Yashpal Gogia, Design and Analysis of a Sensor for Measurement of Fat Content in Milk using IoT Technique, IJSRD 2017 ,Vol. 5,Issue 05
13. Savaroglu G, Aral E (2007) Acoustic parameters of cow's milk added hydrogen peroxide and sodium bicarbonate different temperatures. J Food Eng 79:287–292
14. Mohanan S, Thomas Panicker PG, Iype L, Laila M, Domini I, Bindu RG (2002) New ultrasonic method to detect chemical additives in branded milk. Pramana J Phys 59(3):525–529
15. Elvira L, Durán C, Sierra C, Resa P, Montero de Espinosa F (2007) Ultrasonic measurement device for the characterization of microbiological and biochemical processes in liquid media. Meas Sci Technol 18:2189–2196
16. Marco Santonico,Giorgio Pennazza,Sergio Iarossi Ultrasound Based Sensor for Fat Detection in Fresh Milk, LNEE, volume 162 2013
17. Pallavi Gupta , Anwar Sadat , Mohd Jamilur, Rahman Khan, An Optoelectromechanical Sensor for Detecting Adulteration in Anhydrous Milk Fat IEEE Sensors Journal Volume:14, Issue: 9
18. Moupali Chakraborty Karabi Biswas Hardware Platform to Detect Fat Percent in Milk Using a Lipase Immobilized PMMA-Coated Sensor IEEE Transactions on Instrumentation and Measurement
19. Devesh Bhonge, Yashpal Gogia Design and Analysis of a Sensor for Measurement of Fat content in Milk using optical technique IJETR 2016 Volume-4, Issue-4
20. V. Gantner, P. Miji´c, M. Baban, Z. Škrti´c, and A. Turalija, "The overall and fat composition of milk of various species," Mljekarstvo, vol. 65, no. 4, pp. 223–231, 2015.
21. J. A. Lucey, D. Otter, and D. S. Horne, "A 100-year review: Progress on the chemistry of milk and its components," J. Dairy Sci., vol. 100,pp. 9916–9932, Dec. 2017
22. https://www.instructables.com/id/Interface-Lcd-With-Arduino-Beginner-Guide/
23. https://circuitdigest.com/microcontroller-projects/arduino-labview-interfacing-tutorial
24. https://circuitdigest.com/microcontroller-projects/
25. LabVIEWControlDesignandSimulationKeprt_Jiri/
26. https://components101.com/microcontrollers/arduino-uno

154.

Authors: **M. Premalatha, V. Viswanathan**

Paper Title: **Reducing the duration of Higher Education Study with Sequenced Course Recommendation using Categorical Subset Summation Algorithm**

Abstract: In recent years, gen-y student's learning pace is expanded on account of which the students could complete the required courses before the duration of their degree program. Students enroll the courses in their very own successions and interests during the adaptable course enrolment process. Course arrangement proposal encourages the students to finish their degree program before the duration of the study. This paper proposes a course suggestion framework using categorical subset summation algorithm to decrease the higher education study duration. This model is evaluated by comparing the proposed method with the current course registration patterns followed at our university.

References:

1. Xu, J., Xing, T., & Van Der Schaar, M. (2016). Personalized course sequence recommendations. IEEE Transactions on Signal Processing, 64(20), 5340-5352.
2. Parameswaran, A., Venetis, P., & Garcia-Molina, H. (2011). Recommendation systems with complex constraints: A course recommendation perspective. ACM Transactions on Information Systems (TOIS), 29(4), 20.
3. Chen, C. M., Liu, C. Y., & Chang, M. H. (2006). Personalized curriculum sequencing utilizing modified item response theory for web-based instruction. Expert Systems with applications, 30(2), 378-396.
4. Morrow, T., Hurson, A. R., & Sarvestani, S. S. (2017, August). A Multi-stage Approach to Personalized Course Selection and Scheduling. In 2017 IEEE International Conference on Information Reuse and Integration (IRI) (pp. 253-262). IEEE.
5. Caprara, A., Kellerer, H., & Pferschy, U. (2000). A PTAS for the multiple subset sum problem with different knapsack capacities. Information Processing Letters, 73(3-4), 111-118.

751-754

155.

Authors: **N.Sagar, Dr.Thahiya Afzal**

Paper Title: **English Language Teaching Through Eclectic Approach for Engineering Students-Astudy**

Abstract: This study aims to investigate the use of Eclectic approach in teaching English for engineering students and to know how it is useful in improving their communication skills. Therefore, it uses the Eclectic approach in improving a student's language skills. If a teacher follows the Eclectic approach, it will be useful to students to improve their communication skills. Eclectic approach is a methodology that makes use of the varied language learning approaches instead of confine to one approach. It is a skilled based approach as the teacher can base his method or approach on the basis of the learner's age, knowledge and aims and objectives of the lesson. This study was carried out in two groups-controlled and experimental groups. Each group consisted of sixty students of first year B.Tech with rural background. So this case-study is useful to English teachers to follow this approach in their language teaching.

755-758

Keywords: Teaching and learning, approaches, Eclectic approach, role of teacher, communication skills.

References:

1. Al-Hamesh I.K and Younis,H(1985) Principles and Techniques of Teaching English as a second language. Bagdad,
2. Assey, and Ayot(2009), Principles of teaching and Communication: Nairobi: Kaswanga press And Consultancy Ltd.
3. Banda.D (2011) Situational approach to language teaching, Lecture notes the University of Zambiae
4. Barbara Davis, G.Tools for Teaching, Jossey-Bass Publishers, San Francisco, Second Edition,2009
5. Brown H.D.(1994) Teaching by principles: An interactive Approach to Language Pedagogy NJ: Prentice Hall
6. Cohen A.D.& Scott, Synthesis of approaches to assessing language learning strategies, Prentice Hall International,1996
7. Council of Europe(2001) Common European Framework of Reference for Language:Learning,
8. Teaching, Assessment. Cambridge University press
9. Cresse A. and Blackledge (2015) Researching Bilingual and Multilingual Education. The hand Book of Bilingual and Multilingual Education
10. Dornyei(2005) The Psychology of Language Learner: Individual differences in second language Acquisition.
11. Edward.A (1987) Theories of second language learning: London
12. Eliot.J.A.(1988) Child language,Newyork: Cambridge University Press
13. Foreign language classroom anxiety among English for Specific purposes(ESP) students in International Journal of English studies, Volume 18(2) 2018 P.P145-159 doi:10.6018/ijes/2018/2/323311
14. Halliday, M.A.K(1978) Language as social semiotic .London: Edward Arnold Harries. J(1990) Early language development, London
15. Hymes, D(1972) On communication competence In J.B.Pride and J.Holmes socio linguistics,,penguin
16. Kumar C.P.(2013) The Eclectic Method: Theory and its Application to the learning of English.
17. Inernational Journal of Scientific & Research publication 3(6) ISSN-2250-3553
18. Krashen S.D(1998) Second language acquisition& Second language learning: pretince hallInternational
19. Kithinji, C.T(2007): Instructional Methods in Education. A course book for general teaching methods
20. Kumaravadivelu B(2001) Toward a postmethod pedagogy, TESOL,Quarterly 35:537-560. doi:10.2307/3588427
21. Kumaravadivelu B(2006) Understanding Language Teaching: From method to post method Mahwh,NJ:Lawrence Associates
22. Larsen and Freeman,D& Long.M(1991) An Inroducion to second language acquisition research: London
23. Larsen and Freeman (2011) Techniques & Principles in Language teaching: Oxford, Oxford University Pres
24. Mellow,J.D(2000) Towards Principled Eclecticism in Language Teaching: The two dimensional
25. Model and Centring Principle. Teaching English as Second Language Journal
26. Nunan D(2001) Tradition and Change in the ELT Curriculum, Plenary Presentation at third International Symposium on ELT in China
27. Peacock (1990) Class room skills in English Teaching, London
28. Pellegrino-A veni(2005) study abroad and second language use: Constructing the self.cambridge Cambridge University Press
29. Qing- xue, L and Fang(2007) An analysis of Language Teaching Approaches and Methods Effectiveness and weakness
30. Richard,and Roger T(2001), Approaches and Methods in language Teaching:USA: Cambridge University Press
31. Rivers Wilga.M(1968) Teaching foreign language skills, University of Chicago Press
32. Stern H.H (1992) Issues and options in Language Teaching. Oxford: Oxford University Press
33. Wali, N.H(2009) Eclecticism and Language Learning. Al-Fatih Journal No.39 Diyala University College of Basic Education
34. Wallace J.M (2001) Study skills in English, New Delhi: Vistaar Publications
35. Weideman (2001) The old and New: Reconsidering Eclecticism in Language Teaching: Linguam,17(1)1-13. Doi.org/10.5785/17-1-131
36. Williams, C(1994) Evaluation of Teaching and Learning Methods in the context of Bilingual Secondary Education, University of Wales

156.

Authors:	**Suganya G, Premalatha M, Anushka Sharma, Muktak Pandya, Abhishek Joshi**
Paper Title:	**IoT based Automated Medicine Dispenser for Online Health Community using Cloud**

Abstract: Online health communities generally provide a platform for patients and their families to learn about an illness, seek and suggest support, and connect with other peers in analogous situations. In this paper, an architecture and implementation of an automatic medicine dispenser is proposed to support and extend the online health communities. Through this solution, doctor in the online health community may suggest pills based on the health conditions of their patients as communicated by them through online platform. Each user is secured with a unique barcode while starting the communication between the doctor and the patient. The barcode may then be scanned in the nearby automatic pill dispenser that can dispatch the medicine. Cloud is used as a medium to support Storage as a Service. The proposed model eliminates the need to spend time to visit the doctor and the time to spend in pharmacy. Also, the patients are relieved from the errors that might be caused due to handwriting misinterpretation and change of medicine that exists in manual medicine dispensing system.

Keywords: Medicine, Pills, Automatic Medicine Dispensing, Pharmacy Automation

References:

1. https://ssir.org/articles/entry/the_emerging_world_of_online_health_communities
2. Huh J, Mcdonald DW, Hartzler A, Pratt W. Patient Moderator Interaction in Online Health Communities. AMIA. 2013 In Press. [PMC free article] [PubMed]
3. https://psnet.ahrq.gov/primers/primer/6/Computerized-Provider-Order-Entry
4. Kuperman, G. J., Bobb, A., Payne, T. H., Avery, A. J., Gandhi, T. K., Burns, G., Classen, D. C., … Bates, D. W. (2007). Medication-related clinical decision support in computerized provider order entry systems: a review. Journal of the American Medical Informatics Association : JAMIA, 14(1), 29-40.
5. Tsai, Pei-Hsuan & Chen, Tsung-Yen & Yu, Chi-Ren & Shih, Chi-Sheng & W. S. Liu, Jane. (2011). Smart Medication Dispenser: Design, Architecture and Implementation. Systems Journal, IEEE. 5. 99 - 110. 10.1109/JSYST.2010.2070970.
6. https://patientengagementhit.com/news/solutions-for-reducing-healthcare-appointment-wait-times-for-patients
7. H. Yeh, P. Hsiu, C. Shih, P. Tsai and J. W. S. Liu, "APAMAT: A Prescription Algebra for Medication Authoring Tool," 2006 IEEE International Conference on Systems, Man and Cybernetics, Taipei, 2006, pp. 4284-4291. doi: 10.1109/ICSMC.2006.384807
8. Wan D. (1999) Magic Medicine Cabinet: A Situated Portal for Consumer Healthcare. In: Gellersen HW. (eds) Handheld and Ubiquitous Computing. HUC 1999. Lecture Notes in Computer Science, vol 1707. Springer, Berlin, Heidelberg
9. Mathur P. (2019) Key Technological advancements in Healthcare. In: Machine Learning Applications Using Python. Apress, Berkeley, CA
10. D. Howcroft and N. Mitev, "An empirical study of Internet usage and difficulties among medical practice management in the UK," Internet Res., vol. 10, no. 2, pp. 170–181, 2000.
11. D. E. Goldstein, e-Healthcare: Harness the Power of Internet e-Commerce & e-Care. Gaithersburg, MD: Aspen, 2000.

759-762

157.

Authors:	**S.V. Karthiga, Soundarya K.R**
Paper Title:	**Cultural Effects and Anxiety Faced by the Tribal Children in Learning English**

Abstract: As far as the minority children's education is concerned, many notions were given by The National Policy

763-766

on Education pertaining to the allocation of incentives and modification of institutional infra- structure. It is also mentioned that minority children's educational curriculum and instruction should give importance to their own mother tongue or their own tribal language at the beginning, and there should be a gradual switching over from mother tongue instructions to state language. Second language learning is totally different from first language learning. In the second language learning situation, the students can adjust in many ways. Whenever there is a chance for the students to interact with the other students using native language, they use the native language and they prefer not to use the school language/target language. So the learning progress is found at a lesser degree in the tribal areas.It is generally felt that the tribal children face a lot of problems in learning English. The present study tries to analyse the problems and the cultural effects and anxiety faced by the tribal children in learning English.

Keywords: English, state language, Tribal, anxiety, sociocultural.

References:

1. Lado, R (1965). Language Testing: The Construction and use of foreign languages and tests: A Teacher's Book. London: Longman.
2. Weinreich, U. (1953). Language in Contact: Findings and Problems. The Hague: Moutan.
3. Ministry of Human Resource Development Government of India (Department of Education) (May, 1986). New Delhi. Retrieved from http://www.ncert.nic.in/oth_anoun/Policy_1986_eng.pdf
4. Ministry of Human Resource Development Government of India (Department of Education) (May, 1998. As modified in 1992). New Delhi. Retrieved from http://mhrd.gov.in/sites/upload_files/mhrd/files/document-reports/NPE86-mod92.pdf
5. Bawa, Bhawna. (2018, Jan. 10). 11 Salient Features of National Policy on Education (1986) Retrieved from http://www.yourarticlelibrary.com/education/11-salient-features-of-national-policy-on-education-1986/76821
6. Exam Race. (2016, June.3). Journey of National Policy of Education 1968, 1986 and 1992 (Implemented in 2005) Retrieved from https://www.examrace.com/Current-Affairs/NEWS-Journey-of-National-Policy-of-Education-1968-1986-and-1992-Implemented-in-2005.htm

158.

Authors: **Abhishek Sharma, Sandeep Kumar Gupta, Abhishek Pandey, Giridhari Paul, Biplab Kumar Sarkar, Ram Gopal**

Paper Title: **Four-Level Biometric Security System to Protect The Crucial Information from Unauthorized Access**

Abstract: As the time is changing day by day our world is getting developed in the field of digital technology. We all are connected nowadays on social networking sites such as Facebook, twitter, Instagram, and so on. Other than these networking sites we visit multiple sites on our laptops/Personal computers/Tablet or any other types of devices such as smartphones etc. So actually, we are surrounded by a huge amount of data around the world, and among those data most of the data are our personal data which is so crucial for our identity and security purposes too. With the developing technologies, threats to those important data is also increase as the there are many peoples who are trying to snoop in your important drafts or file to fetch those important data and use them to blackmail you, earn money, use you for their special purposes and even something worst which we can't imagine. In the Indian scenario, the Indian public is less secure than the other developed countries. India has the maximum no. of Internet Data user and also many of them are not aware that how to protect their crucial Data from Snooping. While defending the data from hacking is another field of invention but in this device, we are providing security to those data or collection of Data which is stored in a specific device. By using this device, we can also protect our data from hacking threats because by giving 4 parameters of Protection in which two of them are biological database makes all the devices of the theft useless. Also, this device does not need any Internet connectivity which is a major of hackers for hacking any device hence they also helpless in hacking of this device.

Keywords: FBS System, DNA Fingerprinting, Biometric Impressions, Retina/Iris, Voice Recognition, Pin Hold.

References:

1. https://bigthink.com/philip-perry/new-dna-scanning-software-can-id-you-in-minutes.
2. https://www.ey.com/in/en/services/advisory/ey-global-information-security-survey-2016-2017-india-report
3. https://www.analyticsindiamag.com/annual-consumer-survey-on-data-privacy-in-india-2018/
4. http://www.bioelectronix.com/what_is_biometrics.html
5. https://en.wikipedia.org/wiki/Biometrics
6. https://en.wikipedia.org/wiki/Iris_recognition
7. https://en.wikipedia.org/wiki/Speaker_recognition

767-772

159.

Authors: **N. Hema , S. Justus**

Paper Title: **Enhancing the Diagnosis of Medical Records to determine the Clinical Depressions Using ICD-10 Codes**

Abstract: The ICD-10 code provides accurate and updated procedural codes for the improvement of health care diagnosis, cost and ensures an im-partial reimbursement policies. ICD-10-CM is followed and implemented internationally to provide a quality health care for the patients on a global scale. The clinical environment knowledge in a natural language form detects each sentence. In order to maintain positivity, remove all the negative words in the sentence. Dependent clause that provides a sentence element with additional information and which cannot stand alone in a sentence are identified and removed. The resultant sentence is then preprocessed using Text mining techniques. The extracted meaningful words are then processed through the available huge volume of ICD-10 CM codes database. The main aim of this paper is to map the perception of complaints onto an abstract representation and reasoning the system to generate an appropriate ICD-10 CM code. The idea of the work is to provide efficiency on complex vocabulary, vague and imprecise terms, synonymy and polysemy terms. The effectiveness of this proposed work is determined through the process of Perceptron for finding the efficiency between the trained and test dataset.

Keywords: ICD-10 CM, ICD-10 PCS, Context Analysis, Text Mining, Stemming, Negation Detection, Business Rule, Global Rule, Perceptron, Knowledge Representation.

References:

1. MingkaiPeng, VijayaSundararajan, TylerWilliamson, Evan P.Minty, Tony C.Smith, ChelseaT.A.Doktorchik, HudeQuan, DATA ON CODING ASSOCIATION RULES FROM AN INPATIENT ADMINISTRATIVE HEALTH DATA CODED BY INTERNATIONAL CLASSIFICATION

773-780

OF DISEASE - 10TH REVISION (ICD-10) CODES. Elsevier Inc., February 2018; https://doi.org/10.1016/j.jbi.2018.02.001, Data in Brief 18 (2018) 710–712
2. Ricardo Baeza-Yates, Luz Rello, Julia Dembowski. CASSA: A Context-Aware Synonym Simplification Algorithm. Human Language Technologies: The 2015 Annual Conference of the North American Chapter of the ACL, pages 1380–1385, Denver, Colorado. 2015 May – 2015 June, Association for Computational Linguistics
3. Jaideepsinh K. Raulji, Jatinderkumar R. Saini. Stop-Word Removal Algorithm and its Implementation for Sanskrit Language. International Journal of Computer Applications. 2016 September; 150(2);0975 – 8887.
4. N. Hema, S. Justus. Conceptual Graph Representation Framework for ICD-10. 2nd International Symposium on Big Data and Cloud Computing (ISBCC'15), Elsevier Procedia Computer Science 50 (2015) 635 – 642.
5. N. Hema, S. Justus. Knowledge Base Representation Model for a Structured Repository. International Journal of Engineering Science and Computing. 2016 March, DOI 10.4010/2016.515, ISSN 2321 3361 © 2016 IJESC
6. Lakshmi Devasena C. Efficiency Comparison of Multilayer Perceptron and SMO Classifier for Credit Risk Prediction. International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 4, April 2014
7. Lakshmi K.S, G.Vadivub. Extracting Association Rules from Medical Health Records Using Multi-Criteria Decision Analysis. 7th International Conference on Advances in Computing & Communications, ICACC-2017, 22-24 August 2017, Cochin, India.
8. Nhi-Ha T. Trinh, Soo Jeong Youn, Jessica Sousa, Susan Regan, C. Andres Bedoya, Trina E. Chang, Maurizio Fava, and Albert Yeung. Using Electronic Medical Records to Determine the Diagnosis of Clinical Depression. Int J Med Inform. 2011 Jul; 80(7): 533–540.
9. Mehrabi S, Krishnan A, Sohn S, Roch AM, Schmidt H, Kesterson J, Beesley C, Dexter P, Max Schmidt C, Liu H, Palakal M. DEEPEN:
10. A negation detection system for clinical text incorporating dependency relation into NegEx. J Biomed Inform. 2015 Apr;54:213-9.
11. doi: 10.1016/j.jbi.2015.02.010. Epub 2015 Mar 16.
12. J. F. Sowa. Conceptual Structures-- Information processing in mind and machine. Addison-Wesley Systems Programming Series Reading, MA, 1984
13. Ronald J. Brachman, Hector Levesque. Knowledge Representation and Reasoning. Edition 2010.
14. Lakshmi Devasena C, ICD-10 Volume 2 Instruction Manual 2010 Edition.
15. Erin P. Balogh, Bryan T. Miller, and John R. Ball, Editors; Committee on Diagnostic Error in Health Care; Board on Health Care Services; Institute of Medicine; The National Academies of Sciences, Engineering, and Medicine
16. Article title. https://www.cms.gov/Medicare/Coding /ICD10 /.../ ICD10Introduction.pdf. Date accessed: 05/01/2015
17. Article title. https://en.wikipedia.org/wiki/ Stemming. Date accessed: 07/03/2015
18. Article title. www.textanalysis.com. Date accessed: 15/10/2015
19. Article title. http://www.icd10data.com/ ICD10CM/Codes. Date accessed:22/03/2016
20. Article title. http://www.ranks.nl/stopwords. Date accessed: 10/06/2016
21. Article title. http://www.icd10data.com: 10/06/2016

160.

Authors: **Sneha Sanjay**

Paper Title: **Enhancment of Estidama Pearl Rating of a Retail Store and Energy Centre Using Sustainable Solutions**

Abstract: The main concept of environmentally sustainable buildings is its design that offers minimal environmental impact with maximum human comfort. This paper presents a more green and sustainable retail store and energy centre of an arena by changing its Estidama Pearl Rating from 2 to Estidama Pearl Rating 3 in its design stage, thereby increasing its points from the already existing 75 points to 85 points. The points are achieved by modifying and improving the design, materials, efficiency, facilities and thermal comfort under credit sections of the Estidama Pearl Rating System such as Integrated Development Process, Livable Outdoors and Stewarding Materials of the structure. Furthermore, the cost analysis for each credit point is also provided.

Index Terms: Pearl Rating, Sustainable Building, Material, Cost

References:

1. Abu Dhabi Urban Street and Utility Design Tool Manual
2. A. M. Abdel-Ghany,I. M. Al-Helal, and M. R. Shady(2017) Human Thermal Comfort and Heat Stress in an Outdoor Urban Arid Environment: A Case Study
3. Ayelén María Villalba, Andrea Elvira Pattini, María Lorena Córica (July 2014) "Urban trees as sunlight control elements of vertical openings in front façades in sunny climates. Case Study: Morus alba on north façade"
4. B.V.V Reddy (2004) Sustainable Building Technologies
5. Changhai Penga, Ying Huanga, Zhishen Wub (September 2011) "Building-integrated photovoltaics (BIPV) in architectural design in China"
6. Derby City Plan- Travel Plan Toolkit
7. Dublin City Council Workplace Travel Plan Version 2.1
8. Environmental Impact of Construction Materials and Practices
9. GianpieroEvolaa, FedericaGullob, LuigiMarlettaa(2017) The role of shading devices to improve thermal and visual comfort in existing glazed buildings
10. Global Status Report 2017- UN Environment
11. J.E. Fernandez (January 2002) Flax fiber reinforced concrete - A natural fiberbiocomposite for sustainable building materials-
12. Johnson KwabenaAppiah, Victor NanaBerko-Boateng, Trinity AmaTagbor (2016) Use of waste plastic materials for road construction in Ghana
13. JoséPotting, KornelisBlok(1995) Life-cycle assessment of four types of floor covering
14. Muhamad Hanafi Rahmat, Muhd Hariz Mohkatar, Izudinshah Abd Wahab, Nur Nasuha Abd. Salam, Hazri Abdul Aziz and Nor Haslinda Abas (2018) Assessing the efficiency of green roof technology: A case study of Masjid Kota
15. Silvia Angelone, Marina CauhapéCasaux, Manuel Borghi& FernandoO' Martinez (March 2015) "Green pavements: reuse of plastic waste in asphalt mixtures"
16. Søren Underlien Jensen(2008) Bicycle Tracks and Lanes: A Before-After Study
17. The Building Rating System for Estidama- Building Rating System- Design and Construction (2010)
18. Tobi Eniolu Morakinyo, Olumuyiwa Bayode Adegun, Ahmed Adedoyin Balogun (2014) The effect of vegetation on indoor and outdoor thermal comfort conditions: Evidence from a microscale study of two similar urban buildings in Akure, Nigeria
19. Wentao Jing, Yadan Yan, Inhi Kim, Majid Sarvi (2018) Electric vehicles: A review of network modelling and future research needs

161.

Authors: **Yousaf Khiat, Azeddine Khiat**

Paper Title: **Implementation of a Knowledge Management in a Moroccan public administration**

Abstract: The following article addresses the issue of setting up a Knowledge Management (KM) system in the Regional Academy of Education and Training (AREF) of Greater Casablanca in Morocco. We conducted our study through a questionnaire and interview survey to solicit 42 executives, representing 23% of all AREF administrative staff. So, we approached; in the first place; the problem of Knowledge Management (KM) in the AREF by a theoretical apprehension centered on the concept and its definitions. Then, and through the results of the field study, we made recommendations and proposals divided into three sections: (i) Organizational; (ii) Human and (iii) Technological. Finally, as it is a long-term project for structuring change in culture, we recommend that it be supported by change

management measures. Knowledge management, information system, knowledge transfer, knowledge capitalization.

References:

1. Ermine, J. L. (2000). La gestion des connaissances, un levier stratégique pour les entreprises. Actes du IC, 10-11.
2. Le Louarn J.Y., Wils T., 2001 « L'évaluation de la gestion des ressources humaines : de la notion de coût à celle d'investissement humain », Paris, édition Liaisons.
3. Grossemy, D., Srikantaiah, T. K., Koenig, M. E., Rochette, M., McNabb, D. E., & Soumah, K. B. M. (2008). Transfert des savoirs: stratégies, moyens d'action, solutions adaptées à votre organisation.
4. Jean-Yves Buck, 2003, « Le management des connaissances et des compétences en pratique », Editions d'organisation.
5. Jean Yves Prax, 2003, Manuel du Knowledge Management : une approche de 2e génération, Editions Dunod, Paris, p.60
6. François-Marie Colonna, Le management des connaissances, Décembre 2002
7. Perrenoud, Philipe, « Construire des compétences dès l'école »,Paris :ESF
8. Leboterf, G,1994, De la compétence :essai sur un attracteur étrange, Paris : Les éditions de l'organisation.
9. Maurice Bruneau et Jean François Pujos , 1992, « Le Management de connaissances dans l'entreprise : ressources humaines et systèmes d'informations », Editions d'Organisation.
10. Nonaka, I et Takeuchi, H, 1997, « La connaissance créatrice : la dynamique de l'entreprise apprenante » The Knowledge-Creating Compagny : How Japanese Companies create the dynamics of innovation », De Boeck Université.
11. www.corporateKnowledgesolutions.com
12. Jean-Yves Prax, 2000, " Le guide de Knowledge management», édition Dunod, Paris.
13. Patrice Bourdelais, « Vieillissement de la population ou artefact statistique ? », Gérontologie et Société, 49, juillet 1989, p. 23-32.
14. Bernard Gazier, Les Stratégies de ressources humaines, Paris, La Découverte, « Repères », 1993.
15. Trosa Sylvie, La crise du management public. Comment conduire le changement ? De Boeck Supérieur, « Méthodes & Études », 2012
16. www.cirgref.fr
17. Grimand Amaury, « Quand le knowledge management redécouvre l'acteur : la dynamique d'appropriation des connaissances en organisation », Management & Avenir, 2006/3 (n° 9)
18. http://www.hugueslenoir.fr/consideration-sur-lexperience-et-sa-valeur-sociale/ consulté le 03/01/2019
19. Grundstein, M. (2013). De la capitalisation des connaissances au management des connaissances dans l'entreprise, les fondamentaux du knowledge management. chez INT–Entreprises, 3, 256-272.
20. Lancini, A. (2001). Les déterminants de l'adoption d'un système de gestion des connaissances : contribution à l'étude du succès de la technologie Lotus Notes dans une société mutuelle d'assurances (Doctoral dissertation, Toulouse 1).

162.

Authors: **Jahangeer Soomro, Farah Shah, Sohail A. Soomro, Faheem A. Chachar, Sadaqat Ali**

Paper Title: **Comparative Analysis of Modular Multilevel Converter with Cascaded H Bridge Inverter using Five, Seven and Nine levels**

Abstract: Inverters are power electronic converter that converts DC input to an AC output waveform. These inverters are used to operate sensitive loads so they require better power quality and lower harmonic content. As all the power electronic converters are considered as switches so suitable PWM technique plays a vital role in powering these inverters. This paper attempts to compare the two very popular topologies of inverters like Cascaded H-Bridge Multilevel inverter and Modular Multilevel converter. Performance of Cascaded H-Bridge Multilevel Inverter is viewed by using modulation techniques like In-phase deposition (IPD), Phase opposite deposition (POD) and Alternate Phase opposite deposition (APOD) while Modular Multilevel Converter is viewed under nearest level Modulation (NLM) technique. These are compared in order to have lesser switching losses and lower total harmonic distortion by using MATLAB/SIMULINK simulations.

Keywords: MMC, Cascaded H Bridge Inverter, THD and MATLAB/Simulink

References:

1. Hu P, Jiang D. A level-increased nearest level modulation method for modular multilevel converters. IEEE transactions on Power Electronics. 2015 Apr;30(4):1836-42.
2. Guan M, Xu Z, Tu Q, Pan W. Nearest Level Modulation for Modular Multilevel Converters in HVDC Transmission [J]. Automation of Electric Power Systems. 2010 Jan;2:012.
3. Wu D, Peng L. Characteristics of nearest level modulation method with circulating current control for modular multilevel converter. IET Power Electronics. 2016 Feb 10;9(2):155-64.
4. Timofejevs A, Gamboa D, Liserre M, Teodorescu R, Chaudhary SK. Control of transformerless MMC-HVDC during asymmetric grid faults. InIndustrial Electronics Society, IECON 2013-39th Annual Conference of the IEEE 2013 Nov 10 (pp. 2016-2021). IEEE.
5. B.L Nayak, G. Venkataratnam " THD and Switching losses Analysis of Multi-Level Inverter Fed 3- Φ Induction Motor Drive", International Journal of Scientific and Engineering Research, Vol. 5, issue 1,pp 2067-2074"
6. E. Beser, B. Arifoglu, S. Camur and E.K Beser "Design and Application of a Single Phase Multilevel Inverter Suitable for using as Voltage Harmonic Source", Journal of Power Electronics, Vol. 10, No. 2, March 2010.
7. Soomro, Jahangeer, Tayab D. Memon, and M. A. Shah. "Design and analysis of single phase voltage source inverter using Unipolar and Bipolar pulse width modulation techniques." In Advances in Electrical, Electronic and Systems Engineering (ICAEES), International Conference on, pp. 277-282. IEEE, 2016.
8. Soomro, Jahangeer, Erum A. Qasmi, Faheem A. Chachar, Jamshed A. Ansari, and Sohail A. Soomro. "Comparative analysis of level shifted PWM techniques for conventional and modified cascaded seven level inverter." In Computing, Mathematics and Engineering Technologies (iCoMET), 2018 International Conference on, pp. 1-6. IEEE, 2018.
9. P.V Kumar, C.S Kumar and K.R Reddy " Single Phase Cascaded Multilevel Inverter using Multicarrier PWM Technique", ARPN Journal of Engineering and Applied Sciences, Vol. 8, No. 10, October 2013.
10. R.A Ahmed, S. Mekhilef and H.W Ping "New Multilevel inverter topology with minimum number of switches", Proc. IEEE, TENCON 2010, 1862-1867.
11. B. Harish, U.R Kiran, B.M Lal and S.K Dash " Power Quality Improvement of DC-AC Converter by using Cascaded H-Bridge Multilevel Inverter", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 3, Issue. 2, Feb 2014.
12. D. Subramanian, R. Rasheed " Modified Multilevel Inverter Topology for Driving a single phase induction motor", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 2, Issue. 1, Dec 2013.
13. D. Subramanian, R. Rasheed "Five Level Cascaded H-Bridge Multilevel Inverter Using Multicarrier Pulse Width Modulation Technique", International Journal of Engineering and Innovative Technology (IJEIT), Vol. 3, Issue. 1, July 2013.

799-804

163.

Authors: **Venubabu Rachapudi, Sai Santosh Vaddi, Rahul Reddy Karumuri, Saranya Sripurapu**

Paper Title: **Heart Disease Prediction Using Machine Learning Algorithms**

Abstract: The device studying figurings are using to robotize the direction towards finding the illness proximity by retaining aside the searching at remedial educational statistics. In this information period, big proportions of facts is getting general calendar for exam in every area as is in useful subject. Because the facts is large in nature, retaining

805-809

apart mastering out of it and unnoticed the mission unimportant statistics is most trying research location. Coronary disease choice an is maximum unquestionable location for experts within the modern-day state of affairs because the quit fee due to the coronary disorder is excessive and up 'til now developing well ordered. It offers thought with recognize to the investigators to have a look at often strong and particular machine to foresee shot of coronary sickness early thru dismembering the statistics containing a couple of tendencies. The improvement can store extra lives. In this paper, we researched the contemporary-day systems, assembled a dataset of coronary heart disorder from V.A. Restorative middle, lengthy beach and Cleve land health facility foundation and analyzed the information with four computations in particular desire Tree, Naive Bayes, Neural Networks and Random woodland. We in like manner imparted part boosting to make the approach parallel, and wrapped up some feature institutions a few of the attributes clearly for predictions.

Keywords: Navie Bayes ,Decision Tree, Logistic Regression, Random Forest, Neural Networks

References:

1. Himanshu Sharma, M A Rizvi, " Prediction of heart issue the use of contraption thinking about Algorithms: A Survey" generally speaking magazine on present day and Innovation inclinations in Computing and dialog ISSN: 2321-8169, sum: 5 issue: 8, pp . ninety nine-104
2. Hlaudi Daniel Masethe, Mosima Anna Masethe "Gauge of coronary heart disease using class Algorithms" cases of the field Congress on Engineering and PC age 2014 Vol II WCECS 2014, 22-24 October, 2014, San Francisco, US of americaA.
3. Shubhada Bhalerao , Dr. Baisa Gunjal "Hybridization of front line tasteful way and designed Neural society for coronary heart disease Prediction" generally speaking mag of PC mechanical capacity headways and development (IJCST) – degree four issue three, can moreover - Jun 2016
4. Gaurav Dangi, Tanupriya Choudhury, Praveen Kumar "A splendid method to manage Diagnose coronary heart issue through contraption getting to be familiar with and Springleaf advancing and publicizing and displaying response "IEEE in general gathering on new out of the plastic new Advances and redesigns in Engineering (ICRAIE-2016), December 23-25, 2016, Jaipur, India
5. Theresa Princy. R, J. Thomas " Human coronary heart contamination Prediction gadget using data Mining systems" 2016 general show on Circuit, quality and Computing period [ICCPCT]
6. S. M. M. Hasan1, M. A. Mamun2 et al "Relative examination of arrangement systems for coronary heart issue Prediction" 2018 generally assembling on PC, dispatch, Chemical, texture and virtual Engineering (IC4ME2)
7. Linna Li ; Xuemin Zhang " investigate of substances mining set of rules subject to assurance tree" 2010 all inclusive gathering On pc structure and packages
8. Feng Qin ; Xian-Juan Tang ; Ze-Kai Cheng " utility and examinations of multi_label Naïve Bayes Classifier" court occasions of the tenth by and large Congress on sensible control and Automation
9. Eesha Goel , Er. Abhilasha " Random rich locale: An assessment" overall magazine of front line considers in workstation time and programming application Engineering sum 7, issue 1, January 2017
10. Yulong Xu "research and utilization of cutting edge discretionary woods set of standards basically subject to Spark" 2017 IEEE second overall show on immense records evaluation (ICBDA)
11. omit. Chaitrali S. Dangare, Dr. Mrs. Sulabha S. Apte, "wandered forward look at of coronary illness Prediction gadget using assurances Mining type systems", overall journal of PC programs (0975 – 888), sum forty seven–No.10, pp.forty four-forty eight, June 2012
12. S. U. Amin, okay. Agarwal, and R. Ask, "Inherited Neural social order basically based thoroughly records Mining in Prediction of coronary heart infirmity the use of hazard factors," ,IEEE meeting on records and dialog period (ICT 2013), 2013.
13. miss. Chaitrali S. Dangare, Dr. Mrs. Sulabha S. Apte, "An information burrowing methodology for desire for coronary heart disease the utilization of neural community's", generally magazine of PC Engineering and generation(IJCET)), degree 3, issue three, October - December (2012), pp. 30-forty.
14. Zift, Akin.Random woods outfit classifier trained with realities resampling system to advance heart arrhythmia assurance. PC systems in Biology and treatment forty one.5 (2011): 265-271
15. Abhishek Taneja, coronary ailment Prediction device using records Mining frameworks, Oriental mag of PC advancement and development, Vol. 6, No. 4, 2013
16. ok. S. Kavitha, adequate. V. Ramakrishnan, Manoj Kumar Singh, overall mag of PC imaginative information, vol. 7, issue 5, pp. 272-283, 2010
17. M. Shouman, T. Turner and R. Stocker, "Consolidating need tree and k-route batching with explicit starting centroid decision techniques inside the examination of heart issue sufferers," in Proc. Of Int. Conf. On records Mining, Australian Defense strain Academy Northcott weight, Canberra, 2012, pp. 1-7.
18. P.k. Anooj, clinical decision help contraption: hazard degree desire for coronary heart disease using weighted cushioned rules, magazine of King Saud school – PC and information Sciences (2012) 24, 27–forty.
19. Shimpy Goyal and Dr. Rajender Singh Chhillar , A Literature Survey on undertakings of data Mining frameworks to rely upon coronary heart ailments, by and large journal of Engineering Sciences Paradigms and Researches (IJESPR) (Vol. 20, burden 01)

Authors: **Jyoti S.Patil, G.Pradeepini**

Paper Title: **SIFT:A Comprehensive**

Abstract: Disclosure of talents in photos is comprehensively applied in pc imaginative and prescient it really is a growing examination floats in IT thing these days. Use of AI and robots offers changed disclosure of articles continuously. The splendid SIFT rely and all of its types are utilized in casting off and planning particular scale-invariant competencies. This paper clarifies whole survey everything considered and auxiliaries of SIFT figuring. Unique starts with evaluate of essential thoughts like what is close-with the aid of element descriptors and locators and completions with short assessment of all auxiliaries of SIFT algorithm. Absolutely, this audit will assist the professionals in completing right technique or methodologies of their headway or research work.

164.

Keywords: Computer Vision & Image Processing, Feature Detection, Feature Description, Scale-Invariant-Feature-Transform (SIFT).

810-814

References:

1. D. G. Lowe, "object affirmation from close-by scaleinvariant aptitudes," in IEEE ICCV, 1999, vol. 2, p. 1150.
2. J T. Tuytelaars, okay. Mikolajczyk, et al., "close to invariant trademark locators: a survey," Foundations and characteristics in PC pics and imaginative and farsighted, vol. Three,no. 3, pp. 177–280, 2008.
3. J.S.Patil,Dr.G.Pradeepini "An examination on restorative photograph evaluation the usage of photograph Descriptors frameworks." overall mag of pc applications(IJCA).ICNIC 2016.
4. Dalal, N. Additionally, Triggs, B., "Histograms of orientated Gradients for Human Detection," IEEE pc Society appear on pc vision and test commonness, 2005, San Diego, CA, u.S. Of the us.
5. J.S.Patil, Dr G.Predeepini , "three Dimensional MRI mind picture examination on Hadoop Platform" ICICA 2016,Springer Nature,Singapore.
6. J.M. Morel and G. Yu, "Asift: a crisp out of the plastic new framework for clearly relative invariant picture evaluation," SIAM magazine on Imaging Sciences, vol. 2,no. 2, pp. 438–469, 2009.

7. A. E. Abdel-Hakim and A. A. Farag, "Csift: A channel descriptor with shading invariant properties," in PC imaginative and farsighted and structure pervasiveness, 2006 IEEE pc Society assembling on, vol. 2, pp. 1978–1983.
8. W. Cheung and G. Hamarneh, "N-channel: N-dimensional scale invariant component modify for planning restorative photographs," in Biomedical Imaging: From Nano to Macro, 2007. ISBI 2007. fourth IEEE overall Symposium on, pp. 720–723, IEEE, 2007.
9. Y. Ke and R. Sukthankar, "Pca-channel: An increasingly important different depiction for nearby photograph descriptors," in workstation creative and wise and structure reputation,2004. CVPR 2004. Methodology of the 2004 IEEE pc Society appear on, vol. 2, pp. II–II, IEEE, 2004.
10. P. Mainali, G. Lafruit, Q. Yang, B. Geelen, L. Van Gool, and R. Lauwereins,"Sifer: scale-invariant part locator with slip-ups adaptability," overall mag of workstation innovative and insightful, vol. 104, no. 2, pp. 172–197,2013.

165.

Authors: **B. Akhila, N. Srinivasu, A. V. Varalakshmi, T. R. Samyuktha**

Paper Title: **Energy Efficient Scheduling of Virtual Machines in Cloud Data Center**

Abstract: Cloud computing is an approach for fetching Information Technology services in which assets are recovered from the Internet through online appliances and applications, instead of an immediate association with a server. Load balancing is the way toward disseminating workloads among the servers and evaluating assets in a cloud domain in which the quantity of customers where more prominent than the servers so that there can be trouble on the servers. So, we have to adjust the load and disperse the responsibilities among the servers similarly so it can't be bash with some other server and in this way we can enhance the implementation of server by using the ability called virtualization. Virtualization can be characterized as virtual rendition of the server, operating framework or system device. Due to virtualization the traditional data center has changed altogether right now. Virtualization has diminished different equipment and energy costs. Virtualization benefits organizations that interest all the more evaluating power. Virtualization enhances execution without expanding framework. Here, we will examine a couple of instances of virtualization in which the expense of the data center is lessened and the execution of the framework is enhanced because of a usage of virtualization.

Keywords: virtualization, server, technology, energy, framework.

References:

1. Zhang, Q., Cheng, L. Besides, Boutaba, R., 2010. Dispersed processing: forefront and research issues. Magazine of internet offerings and programs, 1(1), pp.7-18.
2. Fox, A., Griffith, R., Joseph, A., Katz, R., Konwinski, A., Lee, G., Patterson, D., Rabkin, A. Likewise, Stoica, I., 2009. Over the fogs: A berkeley component of view on disseminated processing. Dept. Electrical Eng. Likewise, Comput. Sciences, university of California, Berkeley, Rep. UCB/EECS, 28(13), p.2009.
3. Mell, P. Likewise, Grance, T., 2011. The NIST importance of disseminated processing.
4. Nurmi, D., Wolski, R., Grzegorczyk, C., Obertelli, G., Soman, S., Youseff, L. Likewise, Zagorodnov, D., 2009, may additionally moreover. The eucalyptus open-deliver conveyed figuring form. In Cluster Computing and the Grid, 2009. CCGRID'09. 9th IEEE/ACM worldwide Symposium on (pp. 124-131). IEEE.
5. energy compelling arranging of virtual machines in cloud with due date Prerequisite Youwei Ding, Xiaolin Qin ∗, Liang Liu, Taochun Wang Faculty of laptop era and era, Nanjing college of Aeronautics and Astronautics, Nanjing, 210016, China
6. Lee, Y.C. Likewise, Zomaya, A.Y., 2012. Imperativeness gainful use of advantages in dispersed registering systems. The journal of Supercomputing, 60(2), pp.268-280.
7. Kliazovich, D., Bouvry, P. Likewise, Khan, S.U., 2012. GreenCloud: a hard and fast diploma test association of imperativeness cautious conveyed processing server ranches. The magazine of Supercomputing, sixty (3), pp.1263-1283.
8. Buyya, R., Beloglazov, A. Likewise, Abawajy, J., 2010. Essentialness succesful enterprise of server ranch sources for circulated processing: a fable, building factors, and open troubles. ArXiv preprint arXiv:1006.0308.
9. Beloglazov, A. Additionally, Buyya, R., 2010, can also. Essentialness gainful beneficial useful resource the administrators in virtualized cloud server ranches. In lawsuits of the 2010 10th IEEE/ACM average assembling on percentage, cloud and tool dealing with (pp. 826-831). IEEE computer Society.
10. Malhotra, L., Agarwal, D. Likewise, Jaiswal, A., 2014. Virtualization in appropriated figuring. J. Train. Tech. Softw. Eng, 4(2).
11. Manohar, N., 2013. A diagram of virtualization frameworks in appropriated figuring. In courtroom instances of world accumulating on vlsi, correspondence, moved contraptions, signal and systems and frameworks company (vcasan-2013) (pp. 461-470). Springer, India.
12. Graziano, Charles David. "An advent exam of Xen Moreover, KVM hypervisors for encouraging the Xen Worlds Challenge." (2011).
13. https://www.Researchgate.Net/movement/307905618_AN_OVERVIEW_OF_VIRTUALIZATION_CLOUD_COMPUTING
14. Kumar, Rakesh, and Shilpi Charu. "Connection among's Circulated registering, Grid Computing, Cluster Computing Additionally, Virtualization." international mag of cutting-edge Programming designing and programs
15. IBM, "Google and IBM introduced university Initiative to Deal with internet-Scale Computing Annoying situations,"http://www03.Ibm.Com/press/us/en/press Launch/22414.Wss".
16. Kaur, Kiranjot, and Sheveta Vashisht. "facts Separation Issues in Cloud Computing." global magazine for Beautify research in Engineering and development
17. Kumar, Rakesh, and Shilpi Charu. "An importance of Using Virtualization generation in Cloud Handling." worldwide magazine of laptop systems and Improvement Vol 1(2) (2015).
18. Jin, Y., Wen, Y. Furthermore, Chen, Q., 2012, March. Essentialness profitability and server virtualization in server cultivates: An correct examination. In pc Communications Workshops (INFOCOM WKSHPS), 2012 IEEE convention on (pp. 133-138). IEEE.
19. Mukherjee, T., Banerjee, A., Varsamopoulos, G., Gupta, S.K. Additionally, Rungta, S., 2009. Spatio-not unusual warm careful occupation looking to restrict essentialness utilization in virtualized heterogeneous server ranches. Laptop Networks, 53(17), pp.2888-2904.
20. Beloglazov, A., Buyya, R., Lee, Y.C. In addition, Zomaya, A., 2011. A logical characterization and audit of essentialness compelling server homesteads and circulated processing structures. In Advances in computer systems (Vol. Eighty two, pp. Forty seven-111). Elsevier.
21. Borst, S.C., 1994. Satisfactory probabilistic task of customer kinds to servers.
22. McLay, L.A., 2009. A largest predicted defensive place version with forms of servers. IIE Transactions, 41(8), pp.730-741.
23. Borst, S.C., 1995. Ideal probabilistic task of client kinds to servers. ACM SIGMETRICS overall overall performance evaluation assessment, 23(1), pp.116-a hundred twenty five.
24. Bianchini, R. Similarly, Rajamony, R., 2004. Electricity and essentialness the board for server systems. Laptop, 37(eleven), pp.68-seventy six.
25. https://www.Webopedia.Com/quick_ref/servers.Asp
26. Jamal, M.H., Qadeer, A., Mahmood, W., Waheed, A. Likewise, Ding, J.J., 2009, July. Virtual tool versatility on multi-focus processors based servers for circulated registering exceptional jobs needing to be finished. In Networking, structure, and garage, 2009. NAS 2009. IEEE worldwide conference on (pp. 90-ninety seven). IEEE.
27. Tian, Y., Lin, C. Additionally, Li, adequate., 2014. Supervising execution and electricity use tradeoff for numerous heterogeneous servers in circulated registering. Bundle dealing with, 17(3), pp.943-955.
28. Wang, W., Li, B. Further, Liang, B., 2014, April. Winning resource respectability in dispersed registering structures with heterogeneous servers. In INFOCOM, 2014 court cases IEEE (pp. 583-591). IEEE.
29. Nelson, M., Lim, B.H. Likewise, Hutchins, G., 2005, April. Rapid obvious Migration for digital Machines. In USENIX Annual particular social event, famous music (pp. 391-394).
30. Zimmer, V. Moreover, Rothman, M., Intel Corp, 2006. Reminiscence assist for heterogeneous virtual gadget traffic. U.S. Patent software

10/952,639.
31. Beloglazov, A. In addition, Buyya, R., 2012. Perfect on line deterministic figurings and flexible heuristics for essentialness and execution capable first rate hardening of digital machines in cloud server ranches. Synchronization and Computation: practice and enjoy, 24(13), pp.1397-1420.
32. Kim, okay.H., Beloglazov, A. Additionally, Buyya, R., 2009, November. Energy-cautious provisioning of cloud property for regular organizations. In lawsuits of the 7th worldwide Workshop on Middleware for Grids, Clouds and e-technological know-how (p. 1). ACM.
33. Crago, S., Dunn, k., Eads, P., Hochstein, L., Kang, D.I., Kang, M., Modium, D., Singh, okay., Suh, J. Additionally, Walters, J.P., 2011, September. Heterogeneous appropriated processing. In Cluster Computing (CLUSTER), 2011 IEEE global conference on (pp. 378-385). IEEE.
34. Bagheri, R. Moreover, Jahanshahi, M., 2015. Booking work approach applications on the heterogeneous cloud sources. Indian magazine of era and technology, 8(12).
35. Mashayekhy, L., Nejad, M.M. Additionally, Grosu, D., 2015. A PTAS framework for provisioning and venture of heterogeneous cloud resources. IEEE Transactions on Parallel and distributed systems, 26(nine), pp.2386-2399.
36. Lin, C.C., Liu, P. Moreover, Wu, J.J., 2011, July. Essentialness cautious virtual device dynamic path of movement and reserving for conveyed figuring. In 2011 IEEE fourth international convention on Cloud Computing (pp. 736-737). IEEE.
37. Liu, adequate., Fridman, E. Moreover, Hetel, L., 2012. Protection and L2-advantage examination of organized manipulate systems below spherical-Robin reserving: a length concede method. Systems and manage letters, sixty one(5), pp.666-675.
38. Karthick, A.V., Ramaraj, E. Except, Subramanian, R.G., 2014, February. A succesful multi line paintings booking for disseminated processing. In 2014 international Congress on Computing and conversation technology (WCCCT) (pp. 164-166). IEEE.
39. Pinal Salot, "A Survey of numerous Scheduling algorithm in Cloud Computing environment," IJRET, vol. 2, pp.131–135, 2013.
40. Mladen A. Vouk, "Conveyed registering – problems, research and Implementations," mag of Computing and information era - CIT sixteen, 2008, pp.235–246.
41. strength-inexperienced VM-Placement in Cloud records middle Sambit Kumar Mishra Deepak Puthal Bibhudatta Sahoo Prem Prakash Jayaraman tune Jun Albert Y. Zomaya Rajiv Ranjan Sambit Kumar Mishra Deepak Puthal Bibhudatta Sahoo Prem Prakash Jayaraman music Jun Albert Y. Zomaya Rajiv Ranjan
42. D. Puthal, B. Sahoo, S. Mishra, S. Swain, Cloud making ready features, issues, Further, stressful conditions: a noteworthy photo (2015) 116123doi:10.1109/CINE.2015.31.
43. L. Minas, B. Ellison, electricity e_ciency for facts advancement: a way to 360 abatement manipulate use in servers and server ranches, Intel Press, 2009.
44. S. Zeadally, S. U. Khan, N. Chilamkurti, energy-e_cient finding out: past, Present, and future, The magazine of Supercomputing (2012) 126doi:10. 1007/s11227-011-0632-2.
45. L. Wang, S. U. Khan, J. Dayal, Thermal cautious exceptional weight route of motion with Venture-temperature pro_les in a server ranch, The mag of Supercomputing (2012) 124doi:10.1007/s11227-011-0635-z.
46. US EPA strength famous person software, record to congress on server and server ranch Essentialness adequacy, Public regulation, 2007, pp. 109–431.
47. J. Dong, X. Jin, H. Wang, Y. Li, P. Zhang, S. Cheng, electricity-saving digital gadget State of affairs in cloud server ranches, in: IEEE/ACM worldwide Symposium on Gathering, Cloud and Grid Computing, 2013, pp. 618–624.
48. S. Bazarbayev, M. Hiltunen, okay. Josh, content-primarily based totally arranging of virtual Machines (VMs) in the cloud, in: worldwide conference on allotted Enlisting systems, 2013, pp. 93–one 0 one.
49. I. Hwang, M. Pedram, Hierarchical digital gadget mixture in a Appropriated registering shape, in: IEEE sixth worldwide convention on Cloud Enlisting, 2013, pp. 196–203.
50. S. Sotiriadis, N. Bessis, P. Gepner, N. Markatos, analysis of necessities For virtual machine development in truely one in every of a kind fogs, in:

166.

Authors:	**Ch.Sree Lekha, Ch. Sai Prudhvi Raj, B.Abhishek, V.Krishna Reddy**
Paper Title:	**An Efficient Technic for Dynamic Load Balancing Model in Cloud Computing**

Abstract: appointed enlisting can be symbolize as a dealt with model what portrays figuring associations, in which assets and what's more estimations are recover from cloud advantage provider by methods for web through a few extraordinarily a conventional game plan confined on-line machine and preparation. It gives the on interest associations to stunning activities and structure to the promoter. Cloud ace focuses are required to offer the organization proficiently and absolutely. For that, a cloud supplier uses the all out asset from the inside. along these lines, the middle which might be made arrangements for making an errand inside the apportioned figuring should be considered for effective utilization of the open property. things must be genuinely picked by the spots of the undertaking. With the supportive resource of slowing down the present research on scattered enrolling, we have long gone to the most exhaustively saw and major bother of weight adjusting. Weight changing has been continually an investigation factor whose purpose behind existing is to ensure that every one enlisting assets are gushed skillfully and unobtrusively. As measures of customers are creating at the cloud, the heap modifying has changed into the test for the cloud merchant. Weight changing being bother of research, proposed estimation for weight altering with the objective that it will work competently for first class use of advantage use.

References:

1. Ok.Kishore, V.Thapar. "An green service provider policy for cloud computing surroundings", worldwide magazine of laptop technological understanding developments and era, vol.2, hassle 4, July-Aug 2014.
2. Pinal Salot, "A survey of various scheduling algorithms in cloud computing surroundings", issn: 2319-1163, vol.2,issue 2,pp.131-a hundred thirty five,june 2014.
3. Z.Xiao, W.Song and Q.Chen, "Dynamic useful aid allocation the usage of virtual machines for cloud computing environment", IEEE transactions on parallel and distributes structures, vol. 24, no.6, pp.1107-1117, 2013.
4. I.D.Babu and P.V.Krishna, "Honey bee behaviour stimulated load balancing of tasks in cloud computing environments", achieved gentle computing mag, vol.Thirteen, no. Five, pp.2292-2303,2013.
5. Y.Zhang, "Dynamic Load Balanced multicast based at the eucalyptus open source cloud computing gadget", pp.456-460, IEEE, 2011.
6. R.Basker, V.R.Uthariaraj, and D.C.Devi, "An greater high-quality scheduling in weighted spherical robin for the cloud infrastructure offerings", worldwide magazine of new support in engineering & technology, vol.2, no.Three. Pp.Eighty one-86, 2014.
7. Y.Wen, "Load Balancing mission assignment for cluster primarily based cloud computing", pp.199-204, IEEE, 2014.
8. Z. Fan, "Simulated-annealing load balancing for aid allocation in cloud environments", IEEE worldwide conference on parallel and distributed computing, programs and technology, pp. 1-6, taipei, 2013.
9. N. Tziritas, "application-aware workload consolidation to restriction every strength intake and network load in cloud environments", IEEE international conference on parallel processing, pp.-449- 457, Washington D.C, usa, October 2013.
10. J. Guo, "An instances placement set of regulations based totally on disk i/o load for massive statistics in personal cloud", IEEE international convention on wavelet active media technology and statistics processing, pp. 287-290, 2012.
11. J. O .Garcia, "Collaborative marketers for disbursed load control in cloud information centres the use of stay migration of virtual machines", IEEE global conference on offerings computing, pp. 916-929, 2015.
12. W. Adequate. Hseih, "Load balancing digital machines deployment mechanism in sdn open cloud platform", IEEE worldwide conference on advanced conversation era, pp. 329-335, 2015.
13. R. I. Dinita, "hardware masses and electricity consumption in cloud computing environments", IEEE worldwide convention on industrial generation, pp. 1291-1296, 2013.

Authors:	**Vaishali D.Shinde, B. Thirumala Rao**
Paper Title:	**Mammographic Image for Breast Cancer Detection using CAD**

Abstract: Breast cancer is major health challenge all over the world and its occurrence has increased rapidly in recent years. Only early diagnosis is most compelling way to handle breast cancer patients for treatment at right time. In innovative biomedical science several new approaches evolved for the timely detection of breast cancer. CAD systems can play crucial task in the early detection and diagnosis of breast cancer and can reduce the mortality in women suffering from breast cancer. Generally, a CAD system includes four stages: preprocessing, segmentation, feature extraction and classification. The present review will focus on most advance algorithms for preprocessing and segmentation

Keywords: Computer aided diagnosis (CAD), mammograms, masses, thresholding, segmentation

References:

1. American most cancers Society (2017).Breast cancer: facts and figures 2017
2. http://www.Who.Int/news-room/fact-sheets/element/most cancers
3. W. Schulz, Molecular Biology of Human Cancers. NewYork, u.S.: Springer, 2007
4. A. C. Bovik, M. K. Markey and M. P.Sampat, computer-Aided Detection and analysis in Mammography, guide of image and VideoProcessing. London, U.Good enough.: Elsevier, 2003
5. L. A. G. Ries , P. A. Wingo ,L. X. Clegg, H. L. Howe, X. Wu, P. M. Jamison, R. N. Anderson, B. Okay. Edwards, M. Okay. Markey, E. Ward Annual report to the kingdom on the reputation of cancer, 1975–2001, with a completely unique feature regarding Survival, maximum cancers one 0 one (1) (2004) 3–27.
6. C. D. Maggio, u . S . A . Of the art of contemporary Modalities for the analysis of Breast Lesions, Eur. J. Nucl. Med. Mol. Imaging 31 (Suppl. 1) (2004) S56–S69
7. X. Chen, L. H. Lou H. D. Cheng, X. Cia , computer Aided Detection and class of Microcalcification in Mammogram: A Survey, sample reputation Letters 36 (2003) 2967–2991
8. Abraham, k Chua, C. Ok , Ganesan, good enough., Acharya, U., Min, L. C., and Ng, ok., laptop-Aided Breast maximum cancers Detection the use of Mammograms: A evaluate. IEEE Rev. Biomed. Eng. 6:seventy seven–98, 2013.
9. Kom, M. G. And T iedeu, A., computerized Detection of loads in Mammograms through neighborhood Adaptive Thresholding. Comput.Biol. Med. 37(1):37–48, 2007
10. Caselli, F., F rigerio, M, Mencattini, M., Lojacono, R., and A., Salmeri, Mammographic images Enhancement and Denoising for Breast cancer Detection the use of Dyadic Wavelet Processing. IEEE Trans. Instrum. Meas. 57(7):1422–1430, 2008.
11. B. C. Yankaskas, T. W. Wallace and R. E. Chicken, evaluation of Cancers unnoticed at Screening Mammography, Radiology 184 (3) (1992) 613–617
12. Matthew G. Contrast of pc-Aided Detection to Double studying of Screening Mammograms: evaluate of 231, 221 Mammograms. American magazine of Roentgenology. 2008 April; a hundred 90(4): 854–9.
13. R. C. Jain and P. J. Besl , "Segmentation via Variable-order floor becoming," IEEE Trans. Sample Anal. Device Intell., vol. PAMIIO,pp.167-192, 1988
14. L. G. Shapiro and R. M. Haralick and, "photograph Segmentation strategies," Comput. Vis. Graph. Photo manner., vol. 29, pp. A hundred-132, 1985
15. L. G. Shapiro, S. Soltani, and P. K. Sahoo, "A Survey of Thresholding strategies," Comput. Vis. Graph. Photograph procedure, vol. Forty one, pp. 233-260, 1988
16. E. P. Simoncelli and E. H. Adelson , "Noise elimination through Bayesian Wavelet Coring," in Proc, Int. Conf. Photo Processing, Sep. Sixteen–19,1996, vol. 1, pp. 379–382, 10.1109/ICIP.1996.559512
17. M. M. Kivanc, I. C, adequate. Ramchandran and P. Moulin, " Low Complexity picture Denoising primarily based on Statistical Modeling of Wavelet Coefficients," IEEE signal manner. Lett., vol. 6, no. 12, pp. 300–303,Dec. 1999, 10.1109/97.803428
18. Nugroho, Hanung Adi, et al. "evaluation of virtual Mammograms for Detection of Breast maximum cancers." pc, control, Informatics and Its programs (IC3INA), 2014 international conference on. IEEE, 2014.
19. Hela, and Kamel Hamrouni, Boulehmi, Hela Mahersia " Breast hundreds evaluation the usage of Supervised strategies." image Processing, applications and systems (IPAS), 2016 worldwide. IEEE, 2016
20. Makandar, Aziz, and Bhagirathi Halalli. "Pre-processing of Mammography image for Early Detection of Breast most cancers." Int J Comput Appl (2016): 0975-8887
21. S. Adequate. Bandyopadhyay, I. Ok. Maitra and S. Nag "computerized virtual Mammogram Segmentation for Detection of extraordinary hundreds the use of Binary Homogeneity Enhancement algorithm," Indian journal of laptop technological know-how and Engineering, ISSN: 0976-5166, Vol. 2 No. Three,2011.
22. S. Ok. Bandyopadhyay, S. Nag and that i. K. Maitra "Detection of extraordinary hundreds using Divide and triumph over set of rules in virtual Mammogram," international mag of growing Sciences, 2011, pp: 767-786
23. D. Dinsha, "Breast Tumor Segmentation and type using SVM and Bayesian from Thremogram pics," U nique magazine of Engineering and superior Sciences, Vol. 2, 2014, pp: 147-151
24. Y. Wang, H.D. Cheng and J. Shan, "a singular Atomatic Seed choice algorithm for Breast Ultrasound images in pattern popularity," ICPR 19th international convention 2008.
25. B. Ok. Elfarra , S. I. Ibrahim and Abuchaiba" New feature Extraction approach for Mammogram CAD analysis," global magazine of sign Processing, Vol.6, No.1, 2013
26. Alireza, Norouzi et al. " clinical picture Segmentation strategies, Algorithms, and packages." IETE Technical evaluation 31.3 (2014): 199-213.
27. A. Basit, Abdul and Qayyum, "computerized Breast Segmentation and most cancers Detection thru SVM in Mammograms." growing technology (ICET), 2016 global convention on. IEEE, 2016
28. Conor,Ryan et al. "constructing a stage 1 laptop Aided Detector for Breast cancer using Genetic Programming." ecu convention on Genetic Programming. S pringer, Berlin, Heidelberg, 2014.
29. Kamalakannan, J., et al. "identification of Abnormility from virtual Mammogram to come across Breast maximum cancers." Circuit, energy and Computing era (ICCPCT), 2015 international conference on. IEEE, 2015
30. Mohammad,Taheri et al. " progressed Breast most cancers elegance with automated Thresholding using SVM and Harris corner Detection." court cases of the global convention on research in Adaptive and Convergent systems. ACM, 2016
31. Nor Ashidi Mat Isa , Mina and Luqman Mahmood, "a totally automatic Breast Separation For Mammographic images." BioSignal evaluation, Processing and systems (ICBAPS), 2015 international convention on. IEEE, 2015.
32. V. R. Thool , Vikhe, P. S., "Mass Detection in Mammographic pics the use of Wavelet Processing and Adaptive Threshold approach." mag of medical systems40.Four (2016): eighty
33. V. R. Thool , Vikhe, P. S., "depth primarily based completely computerized Boundary identity of Pectoral Muscle in Mammograms." Procedia computer technology 79 (2016): 262-269
34. Bhagirathi Halalli , Aziz and Makandar, "Pre-processing of Mammography image for Early Detection of Breast maximum cancers." Int J Comput Appl (2016): 0975-8887
35. Chunqiu , Wang et al. "Comparative have a look at of Microwave Tomography Segmentation strategies based totally on GMM and KNN in Breast cancer Detection." proceedings of the 2014 convention on research in Adaptive and Convergent systems. ACM, 2014.
36. Kunda MM Rao ,Spandana, P.,"Novel picture Processing strategies for Early Detection of Breast cancer, Mat lab and lab view Implementation." factor-of-Care Healthcare generation (PHT), 2013 IEEE. IEEE, 2013

167.

829-834

37. A. Basit , Abdul and Qayyum, "automated Breast Segmentation and most cancers Detection through SVM in Mammograms." rising generation (ICET), 2016 worldwide conference on. IEEE, 2016.
38. Samir Kumar Bandyopadhyay , Sanjay Nag , Maitra and Indra Kanta, "approach for Preprocessing of digital Mammogram." pc techniques and applications in biomedicine 107.2 (2012): one hundred seventy five-188
39. Rahimeh, Rouhi et al. "Benign and Malignant Breast Tumors class primarily based on area developing and CNN Segmentation." expert systems with programs 42.Three (2015): 990-1002
40. R. P. T ewari , J. K. Rai , Sharma, Jaya, "A combined Watershed Segmentation method the use of k-way Clustering for Mammograms" sign Processing and integrated Networks (SPIN), 2015 2nd global convention on. IEEE, 2015
41. Mislav Grgic , Mario ,Mustra, "strong computerized Breast and Pectoral Muscle Segmentation from Scanned Mammograms." signal processing 93.10 (2013): 2817-2827
42. Francesco Tortorella , Claudio Marrocco, Molinara and Mario "computerized Segmentation of the Pectoral Muscle in Mediolateral indirect Mammograms." laptop-primarily based medical structures (CBMS), 2013 IEEE twenty sixth global Symposium on. IEEE, 2013.
43. Wei Lu ,Liu, Li, and Qian Liu "Pectoral Muscle Detection in Mammograms the usage of neighborhood S tatistical capabilities." journal of virtual imaging 27.Five (2014): 633-641
44. Rekha, Lakshmanan, "Pectoral Muscle Boundary Detection-A Preprocessing approach for Early Breast maximum cancers Detection." international Automation Congress (WAC), 2014. IEEE, 2014.
45. Mohammed J. Islam , Nashid, Alam "Pectoral Muscle removal on Mammogram the usage of k-method Clustering method." worldwide mag of pc vision & signal Processing four.1 (2014): 11-21.
46. Elizabeth Sherly , Sreedevi, S., "a unique technique for elimination of Pectoral muscle tissues in digital Mammogram." Procedia laptop technological knowledge forty six (2015): 1724-1731
47. Chunxiao Chen, et al. " form-primarily based automated Detection of Pectoral Muscle Boundary in Mammograms." journal of scientific and organic engineering 35.Three (2015): 315-322
48. Ayush, Shrivastava, et al. "computerized digital Mammogram Segmentation the use of Dispersed vicinity growing and Sliding Window set of rules." photo, vision and Computing (ICIVC), 2017 second global conference on. IEEE, 2017

168.	**Authors:**	**V.Mahalakshmi, S.P.Vijayaragavan**
	Paper Title:	**Modeling, Analysis and Design of Cost Effective Cylindrical Wire-Plate Electrostatic Precipitator Usng Pv Array**

Abstract: The ultimate aim of our work is to design an Electrostatic precipitator with an help of a PV array which will help up us to develop a model in which the PV array will serve as an input base. Here we are going to use cylindrical wire-plate type Electrostatic Precipitator. H-Bridge inverter and high frequency Transformer-Rectifier which we are using here gives the actual DC supply to our newly designed EP unit. Here the entire design of the EP unit which works on solar is done with the help of Matlab Simulink and results are being declared.

Index terms: Electrostatic Precipitator (EP), H-Bridge inverter, Step-up transformer, Potential difference, Electrostatic preceptors.

835-838

References:

1. Q. Wang, Y. Bai, J. Xie, Q. Jiang, Y. Qiu, Synthesis & filtration properties of polyimide nanofiber membrane/carbon woven fabric sandwiched hot gas filters for removal of PM 2.5 particles, Powder Technol. 292 (2016) 54-63.
2. Mizuno, Electrostatic precipitation, IEEE Trans. Dielectr. Electr. Insul. 7 (2000) 615e624.
3. K.R. Parker, Applied Electrostatic Precipitation, Chapman &Hall, 1997.
4. A Mizuno. (2000). "Electrostatic Precipitation", IEEE Transactions on Dielectrics and Electrical Insulation, VOL 7, NO. 5.
5. James H turner, Phil A Lawless, Toshhaki Yamamoto. (1995). "Electrostatic Precipitator" Chapter 6.

169.	**Authors:**	**B.Vaidianathan, S.Arul selvi, B.Karthik**
	Paper Title:	**A Stochastic Analysis on Translating Nam Speech into Normal Speech**

Abstract: NAM is generally described as a very delicate whispered voice which is been recognized only by NAM microphone, which is generally termed as body conducting microphones. The vocal chord movements is been generally identified by this vocal instrument. In this paper, we have proposed a methodology that actually checks the up and down movements of vocal chords which then generally converts into speech. Generally the hand gesture recognition system is only been used for communication between two humans. It has many problems such as miss communications. To solve this problem only we are proposing a method of NAM to speech conversion to get normal voices. Generally Wavelet examination is used to separate the information generated from the mumble and then classification is done in order to get the corresponding words.

Index terms: Discrete Wavelet transform, Nam microphone, voice conversion, Threshold, Interference, Speech recognition.

839-842

References:

1. Jun Wang, Ashok Samal, Jordan R. Green, Frank Rudzicz,"Sentence acknowledgment from articulatory movements for quiet speech interfaces",2012.
2. T. Hueber, E.- L. Benaroya, G. Chollet, B. Denby, G. Dreyfus, and M.Stone," Development of a quiet speech interface driven by ultrasound and optical pictures of the tongue and lips". Speech Communication, Vol.52, No. 4, pp. 288– 300, 2010.
3. Shunsuke Ishimitsu, Kouhei Oda and Masashi Nakayama,"Body-led speech acknowledgment in speech emotionally supportive network for clutters" August, 2011.
4. Denis Babani,Tomoki Toda, Hiroshi Saruwatari,Kiyohiro Shikano," Acoustic model preparing for non-audible murmur acknowledgment utilizing transformed typical speech data",2011.
5. T. Schultz and M. Wand. Displaying coarticulation in EMG-based consistent speech acknowledgment. Speech Communication, Vol. 52, No. 4, pp. 341– 353, 2010.
6. T. Hueber, E.- L. Benaroya, G. Chollet, B. Denby, G. Dreyfus, and M. Stone. Improvement of a quiet speech interface driven by ultrasound and optical pictures of the tongue and lips. Speech Communication, Vol. 52, No. 4, pp. 288– 300, 2010.
7. P. Heracleous, V.- A. Tran, T. Nagai, and K. Shikano. Investigation and acknowledgment of NAM speech utilizing HMM separations and visual data. IEEE Trans. Sound, Speech, and Language Processing, Vol. 18, No. 6, pp. 1528– 1538, 2010.
8. D. Babani, T. Toda, H. Saruwatari, K. Shikano. Acoustic model preparing for non-audible murmur acknowledgment utilizing transformed typical speech information. Proc. ICASSP, pp. 5224– 5227, Prague, Czech Republic, May. 2011.

170.	**Authors:**	**Kathiravan P, Govindaraju C**
	Paper Title:	**A Grid Connected Photovoltaic- Fuel Cell and Super Capacitor Hybrid Energy System**

Abstract: Hybrid converter is designed for energy management between different types of source,Grid and energy storage systems. The number of ports is varied based on number of sources, storage systems and Grid. The proposed isolated converter is accepting limitless, different types of sources and storage systems. Its operating mode is classified into different operating states. One ferrite core transformer with serial coupling capacitor is used to perform step up operation with reduced power switch. Proposed converter is designed for energy management between Photovoltaic (PV) array, Fuel Cell(FC), Supercapacitor (SCAP) and load. PV array and Fuel Cell are connected in unidirectional port, Supercapacitor is connected in bi-directional ports. Supercapacitors are designed for transient load and Photovoltaic array,Fuel Cell designed for steady state load. Grid is connected to the converter throng 1:N ferrite core transformer and Three Phase Voltage Source Inverter . Energy transferred toGridis based on the charging state of coupling capacitor. Charge parameter based neuro fuzzy controller is proposed for energy management between different ports with different load conditions. MATLAB simulation is done with different modes, the results shows supercapacitor is discharging and charging in transient load conditions and mode of operations are performed based on charge states of coupling capacitor. The transient and steady state response is analysed using different load conditions.

Index terms: Grid Connected System PV System, Hybrid energy storage, Charge parameter control, Transient and steady state power management.

References:

1. H. Tao, A. Kotsopoulos, J. Duarte, and M. Hendrix, “Family of mul- tiport bidirectional DC-DC converters,” IEE Proc. Electr. Power Appl.,vol. 153, no. 3, pp. 451–458, May 2006.
2. Z. Qian, O. Abdel-Rahman, and I. Batarseh, “An integrated four-port DC/DC converter for renewable energy applications,” IEEE Trans. Power Electron., vol. 25, no. 7, pp. 1877–1887, Jul. 2010.S.
3. Yu and A. Kwasinski, “Analysis of soft-switching isolated time- sharing multiple-input converters for DC distribution systems,” IEEE Trans. Power Electron., vol. 28, no. 4, pp. 1783–1794, Apr. 2013
4. J. Zeng, W. Qiao, and L. Qu, “An isolated multiport DC-DC converter for simultaneous power management of multiple renewable energy sources,” in Proc. IEEE Energy Convers. Congr. Exposit., Sep. 2012,pp. 3741–3748.
5. H. Matsuo, T. Shigemizu, F. Kurokawa, and N. Watanabe, “Characteristics of the multiple-input DC-DC converter,” IEEE Trans. Ind. Electron.,vol. 51, no. 3, pp. 625–631, Jun. 2004.
6. Y. Chen, Y. Liu, and F. Wu, “Multi-input DC/DC converter based on the multi winding transformer for renewable energy applications,” IEEETrans. Ind. Appl., vol. 38, no. 4, pp. 1096–1104, Aug. 2002.
7. X. Sun, G. Pei, S. Yao, and Z. Chen, “A novel multi-port DC/DC converter with bi-directional storage unit,” in Proc. Int. Power Electron. Motion Control Conf., Jun. 2012, pp. 1771–1775.
8. C. Zhao, S. Round, and J. Kolar, “An isolated three-port bidirectional DC-DC converter with decoupled power flow management,” IEEE Trans. Power Electron., vol. 23, no. 5, pp. 2443–2453, Sep. 2008.
9. Z. Zhang, Z. Ouyang, O. Thomsen, and M. Andersen, “Analysis and design of a bidirectional isolated DC-DC converter for fuel cells and supercapacitors hybrid system,” IEEE Trans. Power Electron., vol. 27, no. 2, pp. 848–859, Feb. 2012.
10. D. Liu and H. Li, “A ZVS bi-directional DC-DC converter for multiple energy storage elements,” IEEE Trans. Power Electron., vol. 21, no. 5,pp. 1513–1517, Sep. 2006.
11. Z. Wang and H. Li, “Integrated MPPT and bidirectional battery charger for PV application using one multiphase interleaved three-port DC-DC converter,” in Proc. IEEE Appl. Power Electron. Conf. Exposit., Mar. 2011, pp. 295–300.
12. Z. Wang and H. Li, “An integrated three-port bidirectional DC-DC converter for PV application on a DC distribution system,” IEEE Trans.Power Electron., vol. 28, no. 10, pp. 4612–4624, Oct. 2013.
13. F. Forest, T. Meynard, E. Laboure, B. Gelis, J. Huselstein, and J. Brandelero, “An isolated multicellintercell transformer converter for applications with a high step-up ratio,” IEEE Trans. Power Electron., vol. 28, no. 3, pp. 1107–1119, Mar. 2013
14. G. Su and F. Peng, “A low cost, triple-voltage bus DC-DC converter for automotive applications,” in Proc. IEEE Appl. Power Electron. Conf. Exposit., vol. 2. Mar. 2005, pp. 1015–1021.
15. Y. Chen, A. Huang, and X. Yu, “A high step-up three-port DC-DC converter for stand-alone PV/battery power systems,” IEEE Trans. Power Electron., vol. 28, no. 11, pp. 5049–5062, Nov. 2013
16. 16. F. Blaabjerg and K. Ma, “Future on power electronics for wind turbine systems,” IEEE J. Emerging Sel. Topics Power Electron., vol. 1, no. 3, pp. 139–152, Sep. 2013
17. H. Wu, R. Chen, J. Zhang, Y. Xing, H. Hu, and H. Ge, “A family of three-port half-bridge converters for a stand-alone renewable power system,” IEEE Trans. Power Electron., vol. 26, no. 9, pp. 2697–2706, Sep. 2011.
18. W. Li, J. Xiao, Y. Zhao, and X. He, “PWM plus phase angle shift (PPAS) control scheme for combined multiport DC/DC converters,” IEEE Trans. Power Electron., vol. 27, no. 3, pp. 1479–1489, Mar. 2012.

843-849

171.

Authors: **Balasubramani S, D. John Aravindhar**

Paper Title: **Design Traffic Light Control System based on Location Information and Vehicle Density in VANET**

Abstract: Now days, the number of vehicles has increased by around the world, especially in urban areas. For this vehicle increment causes accidents and polluted the environment. The accidents mostly happened in road junctions. To avoid these accidents the traffic lights were implemented. In every traffic signal the number of vehicles is arriving and waiting for some time to cross the roads. In this time interval the vehicles are omitted the CO2 gas. Compare to roadway the traffic signal area has to be more polluted. To recover this problem, reduce the vehicle waiting time at a traffic signal. In this method, Traffic Light Control System to be designed based on the Vehicle density in VANET.

Keywords: VANET, Traffic Light, VANET Density, VANET Communication.

References:

1. www.itsindia.org
2. Weidong Xiang, Richardson, P, Jinhua Guo, □”Introduction and Preliminary Experimental Results of Wireless Access for Vehicular Environments (WAVE) Systems”,. in Proc. 3rd Annual International Conference on Mobile and Ubiquitous Systems - Workshops, 2006,pp. 1-8.
3. Balasubramani, Deepalakshmi V. Karthikeyan L, "Comparative Study on Non-Delay Tolerant Routing Protocols in Vehicular Networks", Procedia Computer Science, vol. 50, pp. 252-257, 2015.
4. RyanFlorin, StephanOlariu "A survey of vehicular communications for traffic signal optimization" International Journal of Vehicular Communications, Vol:2,pp:70-79, 2015.
5. W. Lee, Y. Lai and P. Chen, "A Study on Energy Saving and CO2 Emission Reduction on Signal Countdown Extension by Vehicular Ad Hoc Networks," in IEEE Transactions on Vehicular Technology, vol. 64, no. 3, pp. 890-900, March 2015.
6. P. Mirchandani and Fei-Yue Wang, "RHODES to intelligent transportation systems," in IEEE Intelligent Systems, vol. 20, no. 1, pp. 10-15, Jan.-Feb. 2005.
7. Chen Shiuan-Wen, Yang Chang-Biau and Peng Yung-Hsing. Algorithms for the Traffic Light Setting Problem on the Graph Model.

850-853

8. Stefan Lämmer, Dirk Helbing "Self-control of traffic lights and vehicle flows in urban road networks", Journal of Statistical Mechanics: Theory and Experiment,Vol.4, April2008.
9. L. Bus¸oniu, R. Babuska, and B. De Schutter, "Multi-agent reinforcement learning: ˇ An overview," Chapter 7 in Innovations in Multi-Agent Systems and Applications – 1 (D. Srinivasan and L.C. Jain, eds.), vol. 310 of Studies in Computational Intelligence, Berlin, Germany: Springer, pp. 183–221, 2010.
10. Y. Huang, Y. Weng and M. Zhou, "Modular Design of Urban Traffic-Light Control Systems Based on synchronized Timed Petri Nets," in IEEE Transactions on Intelligent Transportation Systems, vol. 15, no. 2, pp. 530-539, April 2014.
11. M. Bani Younes and A. Boukerche, "An Intelligent Traffic Light scheduling algorithm through VANETs," 39th Annual IEEE Conference on Local Computer Networks Workshops, Edmonton, AB, 2014, pp. 637-642.

172.

Authors: **B Rajeswari, P Abdul Khayum**

Paper Title: **Dynamic Susceptibility Contrast Perfusion Quantification using Spread Bases Function**

Abstract: Dynamic Susceptibility Contrast (DSC) perfusion Magnetic Resonance (MR) imaging of the brain provides tissue perfusion characterization. This characterization can be done by recovering scalar parameters like cerebral blood volume (CBV), cerebral blood flow (CBF), and mean transit time (MTT) and also tissue impulse response function. Scattering effect of bolus causes not only the information to reflect tissue perfusion and also provide macro vascular properties. The possibilities of obtaining disperse response functions and parameters can be done by performing deconvolution. The proposed method of Spread Bases Function (SBF) used to denote the response function in the presence of scattering for effective parameter estimation. The simulated results show that SBF deconvolution gives better performance than oSVD in the effective estimation of perfusion parameter, irrespective of the occurrence of scattering. Furthermore, the SBF method recovers response functions effectively that carry out with both healthy and pathological conditions, and offers the benefit of making no suspicions about the nature of scattering at different levels of perfusion. The simulated results are implemented on the digital head phantom.

Index terms: Perfusion, Dynamic Susceptibility Contrast, Spread Bases Function

854-857

References:

1. Calamante, F., 2005. Bolus dispersion issues related to the quantification of perfusion MRI data. Journal of magnetic resonance imaging 22, 718–722
2. Calamante, F., Gadian, D.G., Connelly, A., 2000. Delay and Dispersion Effects in Dynamic Susceptibility Contrast MRI Simulations Using SVD
3. Calamante, F., Willats, L., Gadian, D.G., Connelly, A., 2006. Bolus delay and dispersion in perfusion MRI: implications for tissue predictor models in stroke. Magnetic Resonance in Medicine 55, 1180–1185.
4. Chappell, M.A., Woolrich, M.W., Kazan, S., Jezzard, P., Payne, S.J., MacIntosh, B.J., 2013. Modeling dispersion in arterial spin labeling: validation using dynamic angiographic measurements. Magnetic Resonance in Medicine 69, 563–570.
5. Calamante, F., 2013. Arterial input function in perfusion MRI: a comprehensive review. Progress in nuclear magnetic resonance spectroscopy 74, 1–32.
6. Connelly, A., Calamante, F., Willats, L., 2006. Improved deconvolution of bolus tracking data using wavelet thresholding, in: Proc. 14th Sci. Meeting Int. Soc. Magn. Reson. Med., pp. 3563–3563.
7. Knutsson, L., St˚ahlberg, F., Wirestam, R., 2010. Absolute quantification of perfusion using dynamic susceptibility contrast MRI: pitfalls and possibilities. Magnetic Resonance Materials in Physics, Biology and Medicine 23, 1–21.

173.

Authors: **K.Srinivasa Naik, S.Aruna, Kondalu Banavathu, P.Vamsy Prasad**

Paper Title: **Design and Analysis of Different Patch Geometry and Complementary Split Ring Resonator for X-band Applications**

Abstract: In this paper, a comparative study between the probe feed and strip line feed on a circular, rectangular, triangular and hexagonal Patch Antenna are presented in this paper to compare the performance of antenna parameters. Rectangular and Circular configurations are most popular because they exhibit better characteristics but here triangular and hexagonal shapes are also taken due to advantage of compact size. At later stage, two metamaterial inspired rectangular and circular complementary split ring resonators are proposed and designed using microstrip line feeding to achieve antenna miniaturization. The proposed antennas are structured with flame retardant FR4 Epoxy substrate has thickness h=1.6mm and relative permittivity εr=4.4. The proposed microstrip patch antennas are designed for X-band application. The proposed antennas are implemented and pretended utilizing High Frequency Structure Simulator (HFSS) software version v17.2.

Keywords: Complementary Split Ring Resonator(CSRR),Metamaterial, Probe feeding, strip line feeding, FR4 Epoxy, HFSS, Microstrip Patch Antenna(MPA), X-band

858-869

References:

1. R Kiruthika, T. Shanmuganantham, "Comparison of different shapes in microstrip patch antenna for X-band applications", International Conference (ICETT), pp. 1-6, 2016.
2. S. Chakravarthy Sibi, N. Sarveshwaran, S. Sriharini, M. Shanmugapriya, "Comparative Study on Different Feeding Techniques of Rectangular Patch Antenna", Conference on ireless and optical Networks, pp. 1-6, 2016.
3. C. A. Balanis, Antenna Theory, New York:John Wiley & Sons, Inc., 1997.
4. Arshad Iqbal, Fazal Rehman Sani, Zaka Ullah, Muhammad Irfan Khattak, Muhammad Anab Khattak, Najmus Saqib, Hajra Masood, "Comparative study of micro strip patch antenna for X band using micro strip line feed and coaxial feed", Engineering and Emerging Technologies (ICEET) 2018 International Conference on, pp. 1-6, 2018.
5. N. Herscovici, "New considerations in the design of microstrip antennas" in IEEE Transactions on Antennas and Propagation, vol. AP-46, no. 6, pp. 807-812, 2002.
6. Sharma Sanjeev, Bhushan Bharat, Gupta Shailender, Kaur Preet, "Performance Comparison of Micro-strip Antennas with Different Shape of the Patch", International Journal of u and e Service Science and Technology, vol. 6, no. 3, 2013.
7. Swati Shrivastava, Abhinav Bhargava, "A Comparative Study of Different Shaped Patch Antennas with and without Slots" in International Journal of Engineering Development and Research, vol. 2, no. 3, 2014.
8. V. G. Veselago, "The electrodynamics of substances with simultaneously negative values of permittivity and permeability," Sov. Phys. Uspekhi, vol. 10, pp. 509–514, 1968.
9. J.B. Pendry, A.J. Holden, D.J. Robbins, W.J. Stewart, IEEE. Trans. Microwave .Theory Technol. 47, 2075 1999.
10. J.B. Pendry, A.J. Holden, D.J. Robbins and W.J. Stewart, "LowFrequency Plasmons for Thin-Wire Structure", J. Phys. Condens.Matter, Vol.10, pp. 4785–4809, 20 March 1998.
11. D. R. Smith, W. J. Padilla, D. C. Vier, S. C. Nemat-Nasser, and S. Schultz, "Composite medium with simultaneously negative permeability and permittivity," Phys. Rev. Lett., vol.84, no. 18, pp. 4184–4187, May 2000.

12. R. W. Ziolkowski and A. Erentok, “Metamaterial-based efficient electrically small antennas,” IEEE Trans. Antennas Propag., vol. 54, no. 7, pp. 2113–2130, Jul. 2006.
13. S. Jahani, J. Rashed-Mohassel and M. Shahabadi, “Miniaturization of Circular Patch Antennas Using MNG Metamaterials,” IEEE Antennas Wireless Propag. Lett., vol. 9, pp. 1194-1196, 2010.
14. Caloz C and Itoh, “Electromagnetic Metamaterials: Transmission Line Theory and Microwave Applications”(New York: Wiley) 2005.
15. G. Kiziltas and J. L. Volakis, “Miniature Antenna Designs on Metamaterial Substrates.”
16. Yuandan Dong, H. Toyao and T. Itoh, “Compact Circularly-Polarized Patch Antenna Loaded With Metamaterial Structures,” IEEE Trans. Antennas Propag., vol.59, no.11, pp.4329-4333, Nov. 2011.
17. J. Holden, D. J. Robins, and W. J. Stewart, “Magnetism from conductors and enhanced non-linear phenomena,” IEEE Trans. Microwave Theory Technol., Vol.47, pp.2075-2084, 1999.
18. D.R. Smith,W.J. Padila, D.C. Vier, S.C. Nemat-Nasser, S. Schultz, Phys.Rev. Lett. 84, 4184 (2000).
19. Y.S.Kivshar, Nonlinear and Tunable Metamaterials,in:Metamaterials: Fundamentals and Applications II, edited by M. A. Noginov, N. I. Zheludev, A. D. Boardman, andN. Engheta Proc. SPIE 7392, 739217 (2009)