Volume 3 Issue 3, August 2013

International Journal of Innovative Technology and Exploring Engineering

IJITEE

ISSN : 2278 - 3075
Website: www.ijitee.org

Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.
Exploring Innovation: A Key for Dedicated Services

Address:
22, First Floor, ShivLoke Phase-IV,
Khajuri Kala, BHEL-Piplani, Bhopal (M.P.)-462021, India
Website: www.blueeyesintelligence.org
Email: director@blueeyesintelligence.org, blueeyes@gmail.com
Cell #: +91-9669981618, **WhatsApp #:** +91-9669981618, **Viber #:** +91-9669981618
Skype #: beiesp, **Twitter #:** beiesp

Technical Advisory Board

Volume-3 Issue-3, August 2013, ISSN: 2278-3075 (Online)
Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.

S. No		Page No.
1.	**Authors:**	
	Paper Title:	
	Abstract: 0 **Keywords:** 0 **References:** 0	
2.	**Authors:**	**Tarun Kumar Gauttam, Rekha Agrawal, Sandhya Sharma**
	Paper Title:	**Arbiter Design Using Verilog for Switching to Communicate in Between Multiple Resources**
	Abstract: This project attempts to describe a special type of circuit called an arbiter to be used in a larger design called switch to communicate in between multiple resources. The design specification gives results according to suggested implementation for the circuit. Finally, possibilities for addition, revision and testing structure for an integrated circuit implementation of the arbiter will be proposed. The main contribution of this paper is the design and optimization of asynchronous arbiter circuit using CMOS, Bi-cmos and synchronous fast round- robin arbiters and the design of On-Chip Scheduler. Scheduler is expressed here in verilog RTL and simulation results are presented to indicate the performance. This paper will present design ideas for effectively interfacing to an arbiter and investigate coding styles for some common arbitration schemes. When Circuits need to be constructed out of several self-timed parts, the arbitration is often required for the asynchronous design. We consider the creation of the general purpose arbiter delegating M resources to N clients. Firstly, the task is done for the case of one to three resources being offered to one to three clients and preserving capability to allow one to all clients accessing resources simultaneously using verilog. **Keywords:** Complementary metal oxide semiconductor (CMOS).Register transistor logic (RTL). **References:** 1. Pankaj Gupta, "On the Design of Fast Arbiters", Oct2, 1997. 2. Jonathan Chao, "Saturn: A Terabit packet Switch Using Dual Round-Robin", IEEE Communications Magazine, vol. 38, no. 12 December 2000, pp78-84. 3. Arbiter: Style and Coding Style, Matt Weber Silicon Logic Engineering.inc. 4. Multi –Resources arbiter design; Stanislavs Golubcovs, Andrey, Mokhov, Yakovlev {Stanislavs, Golubcovs, Andrey, Mokhov, Alex. Yakovlev}@ncl.ac.uk. 5. Arbiter for an Asynchronous Counter flow Pipeline by James Copus. 6. Synopsys, inc., "Design ware Foundation Library Data book, Volume 2", v2000.11, pp 111-126	**3-11**
3.	**Authors:**	**Tejashri S. Gulve, Pranesh Murnal**
	Paper Title:	**Feasibility of Implementing Water Tank as Passive Tuned Mass Damper**
	Abstract: This paper presents analytical investigation carried out to study the feasibility of implementing water tank as passive TMD using SAP. Three multi-storey concrete structures, seven and ten storey were taken for the study. The water tank was placed at the roof. The mass and frequency of the tank including its water, walls, roof, beams and columns were tuned to the optimized values. The behavior of the tank subjected to five earthquake data, namely, El-centro, Bhuj, Kobe, Chichi and N-Palm was studied under four conditions, namely building only with damping, empty tank with damping, full tank with damping and full tank without damping. The results show if the tank is tuned properly it can reduce the peak response of structures subjected to seismic forces. **Keywords:** Vibration control; seismic excitation; passive TMD; water tank; optimization **References:** 1. Passive Energy Dissipation Systems in Structural Engineering , Soong, T. T.; Dargush, Gary F. John Wiley & Sons, Ltd. (UK) 2. Hartog, J. P. (1947).‖ Mechanical vibrations‖. McGraw-Hill, New York, N.Y 3. Discussion on ''A bidirectional and homogeneous tuned mass damper: A new device for passive control of vibrations'' by Jose L. Almazan, Juan C. De la Llera, Jose A. Inaudi, Diego Lopez-Garcia, Luis E. Izquierdo [Eng Struct 29 (2007). 4. Assessment of long-term behavior of tuned mass dampers by system identification Benedikt Weber∗, Glauco Feltrin. 5. Lee Chien-Liang, ChenYung-Tsang(2006) Optimal design theories and applications of tuned mass dampers‖. Engineering Structures 6. McNamara, R. J. (1977) "Tuned mass dampers for buildings." Journal of Structural Division.	**12-19**
4.	**Authors:**	**Aneel Kumar Hindu, Jiro Takemura, Agha Faisal Habib Pathan**
	Paper Title:	**Influence of Acoustic Excitation on Effluent Concentration of Zinc from Clayey Soils**
	Abstract: The efficiency of soil remediation techniques generally depends upon the contaminant sorption by soil and contaminant desorption from soil. Sorption and desorption again depends upon the soil contaminant interaction. Generally the desorption of heavy metals from fine grained soils like clay is considered as lengthy and costly process, particularly under in-situ conditions. In this research acoustically enhanced column tests were performed to evaluate the influence of acoustics to desorb heavy metal contaminant like zinc from fine grained soils like clay, considering in-situ stress conditions. The test results show that the sorption of zinc remained significantly higher than that of desorption, application of acoustics increased the removal of zinc ions sorbed on solid phase of soil and optimum increase in effluent concentration achieved at 1.4 pore volume.	**20-23**

Keywords: Heavy metal, clay, desorption, acoustics, column test.

References:

1. A. K. Hindu, K. Tetsua, and J. Takemura, "Effects of Sonication on Sorption of Zinc by Clayey Soils", Proceedings, The 6th Regional Symposium on Infrastructure Development, Bangkok, Thailand, 2009, Paper No: GEO-09.
2. H. I.Chung, and H. Kamon, "Ultrasonically Enhanced Electrokinetic Remediation for Removal of Pb and Phenanthrence in Contaminated Soils", Engineering Geology, vol.77, 2005, pp 233-242.
3. A. K. Hindu "Enhancement of heavy metal removal from clay by acoustics", PhD Thesis, Tokyo Institute of Technology, 2008.
4. S. Huwang, J. S. Park, and W. Namkoong, "Ultrasonic-Assisted Extraction to Release Heavy Metals from Contaminated Soil" Journal of Industrial Engineering and Chemistry, vol. 13, 2007, pp 650-656
5. H. Kyllonen, P. Pirkonen, V. Hintikka, P. Parvinen, A. Gronroos,and H. Sekki, "Ultrasonically Aided Mineral Processing Technique for Remediation of Soil Contaminated by Heavy Metals", Ultrasonics Sonochemistry, vol. 11, 2004, pp. 211-216.
6. L. K. Lim, S. W. Kim, H. S. Shin, T. Okuda and O. Mitssumasa, "Leaching Behavior of Lead from Ultrasonically Treated MSWI Fly Ash", Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering, vol. 39 2004, pp 1587-1599.
7. J. N. Meegoda, and R. Perera, "Ultrasound to Decontaminate Heavy Metals in Dredged Sediments", Journal of Hazardous Materials, vol. 85, 2001, pp 73-89.
8. J. N. Meegoda, and K. Veerawat, "Ultrasound to Decontaminate Organics in Dredged Sediments, Soil and Sediment Contamination, vol. 11, 2002, pp 91-116.
9. A. K. Hindu, and J. Takemura, "Determination of Zinc Partition Coefficients of Clay Sand Mixtures from Column and Batch Tests", Geotechnical Engineering Journal, South East Asian Geotechnical Society, vol. 40, 2009, pp 171-183

5.

Authors: **Shobha Sharma, Ashwani Kumar, Nupur Prakash, B.V.R. Reddy**

Paper Title: **High Speed and Gate at 22nm Metal Gate Strained Silicon Technology**

Abstract: This paper demonstrates a high speed AND gate at 22nm High K metal gate Strained Silicon making use of forward body biasing. The simulations are done with hspice simulator with 'HP ptm' models of Arizona State University, USA. Forward body biasing results in higher speed with shortened propagation time on an average and 'on an average' shortened rise time and fall time. There is deterioration of output voltage if static forward body biasing is beyond a limit. The output voltage levels can be at its best inspite of the forward body biasing with the use of different circuit configuration, which is a future scope of this research paper. Also the other side effects of forward body biasing can be overcome with new techniques The average decrease in rise time and fall time is 4 % and average decrease in propagation delay is 39 % for input low to output low and 13% for input high to output high.

Keywords: 22nm, High Speed AND gate, CMOS AND gate, Forward body biasing, Hi K metal Gate Strained Si, ptm models.

24-25

References:

1. K Blult,' Analog design in deep sub micron CMOS' IEEE TJSSC,Vol40,p132-143
2. Dickson et al,' The invariance of characteristics current densities in nanoscale MOSFETS and its impact…',ieee jssc,vol41,no8,p1830-1844 Aug2006
3. B. Murmann et al,'Importance of scaling on analog performance, IEEE tran electronic devices,Vol53, no9,p2160-2167
4. www.itrs.net
5. J rabey, chandrasekheran digital integrated circuit…' 2nd Edition,Prentice Hall 2004.

6.

Authors: **Shilpi, Swati Sharma, Vikas Vats**

Paper Title: **A Study of Power Quality in Grid Interconnection with DFIG**

Abstract: A growing number of nations have recognized the economic, social and environmental benefits of renewable energy and are enacting tax incentives and other policy measures favorable to renewable technologies. To analyze the various aspects of grid interconnection with DFIG using MATLAB. This paper is based on the performance of renewable source of energy (wind). This analysis is based on the MATLAB Simulation, With the help of this software & using simulation technique analysis of Performance is done & Power Quality Problems such as voltage sag, voltage flicker and unbalance voltage due to fault are also analyzed. This paper shows the power electronic grid interconnection supports the variable speed wind power, real and reactive power control, and reduces the influences of fluctuations in the wind such as voltage flickers. Nonetheless, it generates other problems due to the switching devices of the power converters. One problem of the grid interconnection is harmonic distortions of the grid currents and voltages. The harmonic distortions degrade the power quality. This leads to more severe problems in the power system such as transformer saturations, failure of protective devices, etc

Keywords: RES, WTG, PV, DFIG, FSIG

26-29

References:

1. Nick Jenkins et.al, "Embedded generation", London, United Kingdom, 2000.
2. C. Sankaran, " Power Quality", London, United Kingdom, 2000.
3. R.C Dugan et.al, "Electric Power Systems Quality", McGraw Hill, New York 1996.
4. Ion Boldea, "Variable Speed Generators", Taylor & Francis, New York 2006.
5. S.N.Singh et.al, "Renewable Energy Generation in India: Present Scenario and Future Prospects", Proceedings of IEEE Conference on Power and Energy, pp. 1-8, 2009
6. S. Meo et.al , "Integration of Fuel Cell Electrical Source in Renewable Energy Power System Supply", Proceedings of IEEE 8' International Conference on Probabilistic Methods Applied to Power Systems, pp 445-450, 12-16 September, 2004.
7. S Saha and V.P Sundarsingh, "Novel Grid-Connected Photovoltaic Inverter", Proceedings of IEEE Trans. on Generation, Transmission and Distribution, Vol. 143, No 2, pp 219–224, March 1996.
8. Noor M. Sheikh, " Efficient Utilization of Solar Energy for Domestic Applications" , Proceedings of IEEE Second International Conference on Electrical Engineering, pp 1-3, 25-26 March 2008.
9. W. Carter and B. M. Diong, "Model of a Regenerative Fuel Cell-Supported Wind Turbine AC Power Generating System", Proceedings of

IEEE Conference on Industry Application, Vol. 4, pp. 2778-2785, 2004.
10. Stanley R. Bull, "Renewable Energy Today and Tomorrow", Proceedings of IEEE Journal, Vol. 89, No. 8, pp. 1216-1226, 2001.
11. Dahiya Surender et.al, "Power Quality Issues of Embedded Generation," Proceedings of IEEE Power India Conference, 2006.
12. Ian Hunter, "Power Quality Issues a Distribution Company Perspective", IET Journal on Power Engineering, Vol. 15, No. 2, pp.75-80, April 2001.
13. Ali Abur and Mladen Kezunovie, " A Simulation and Testing Laboratory for Addressing Power Quality Issues in Power Systems", IEEE Trans. on Power Systems, Vol. 14, No. 1, pp 3-8, February 1999.
14. Clémentine Coujard et.al, "Innovative Training Techniques to Account For Power Quality Issues when Deploying Distributed Energy Resources", Proceedings of IEEE 9th International Conference on Electrical Power Quality and Utilisation, pp. 1-6, 2007.
15. Ali F. Imece, "Utility Impact and Power Quality Issues" ,Proceedings of IEEE Conference on Power Engineering, Vol. 1, pp. 434-438, 1999.
16. C.S.Rajeswari and Vinay Thapar, "Power Quality Issues Related To Grid Connection of Wind Turbine Generators", Proceedings of IET International Conference on Information and Communication Technology in Electrical Sciences, pp. 480-484, 20-22 Dec. 2007.
17. Sharad.W.Mohod and Dr.Mohan V.Aware , "Power Quality Issues & It's Mitigation Technique In Wind Energy Generation", Proceedings of IEEE 13th International Conference on Harmonics and Power Quality of Power, pp. 1-6, 2008
18. Tao Sun et.al, " Flicker Study on Variable Speed Wind Turbines with Doubly Fed Induction Generators", IEEE Trans. on Energy Conversion, Vol. 20, No. 4, pp 896-905., December 2005.
19. Po-Tai Cheng et.al, "Design and Implementation of a Series Voltage Sag Compensator Under Practical Utility Conditions" , IEEE Trans. on Industry Applications, Vol. 39, No. 3, pp 844-856, May/June 2003.
20. Po-Tai Cheng et.al, "Design of a State-Feedback Controller for Series Voltage-Sag Compensators" , IEEE Trans. on Industry Applications, Vol. 45, No.1, pp 260-267 , January/February 2009.

7.	**Authors:**	**G.Kishore, P.Srinivasulu**
	Paper Title:	**Target Detection and Tracking in High-Resolution Aerial Images using Contour-Based Spatial Model and Correlation Tracker**

Abstract: This project aims at developing a contour-based spatial model which can detect geospatial targets accurately in high-resolution Aerial images. The detected targets are tracked using target tracking Correlation Algorithm. To detect the geospatial targets with complex structures, each image was partitioned into pieces as target candidate regions using multiple segmentations at first. Then, the automatic identification of target seed regions is achieved by computing the similarity of the contour information with the target template using dynamic programming. Finally, the contour-based similarity was further updated and combined with spatial relationships to figure out the missing parts. In this way, a more accurate target detection result can be achieved. The detected target further has to be monitored for its movements, this is achieved by implementing a correlation based tracking algorithm which efficiently tracks the target movements in successive image frames and its 2-D coordinates are plotted. The 2-D coordinates gives the observer a view of the Target movements and intentions.

Keywords: 2-D coordinates are plotted. The 2-D coordinates gives the observer a view of the Target movements and intentions.

References:

1. D. Tuia, F. Pacifici, M. Kanevski, and W. J. Emery, "Classification of very high spatial resolution imagery using mathematical morphology and support vector machines," IEEE Geosci. Remote Sens., vol. 47, no. 11, pp. 3866–3879, Nov. 2009.
2. R. Fergus, P. Perona, and A. Zisserman, "Object class recognition by unsupervised scale-invariant learning," in Proc. CVPR, Jun. 2003, vol.2, pp. II-164–II-271.
3. A. C. Berg, T. L. Berg, and J. Malik, "Shape matching and object recognition using low distortion correspondences," in Proc. CVPR, Jun. 2005, vol. 1, pp. 26–33.
4. R. Fergus, P. Perona, and A. Zisserman, "A visual category filter for google images," in Proc. ECCV, 2004, vol. 3021, pp. 242–256.
5. B. Leibe, A. Leonardis, and B. Schiele, "Combined object categorization and segmentation with an implicit shape model," in Proc. ECCV, 2004, pp. 17–32.
6. H. Akcay and S. Aksoy, "Automatic detection of geospatial objects using multiple segmentations," IEEE Geosci. Remote Sens., vol. 46, no. 7, pp. 2097–2111, Jul. 2008.
7. X. Sun, H. Wang, and K. Fu, "Automatic detection of geospatial objects using taxonomic semantics," IEEE Geosci. Remote Sens. Lett., vol. 7, no. 1, pp. 23–27, Jan. 2010.
8. V. Ferrari, L. Fevier, F. Jurie, and C. Schmid, "Groups of adjacent contour segments for object detection," IEEE Trans. Pattern Anal. Mach. Intell., vol. 30, no. 1, pp. 36–51, Jan. 2008.
9. J. Shotton, A. Blake, and R. Cipolla, "Multiscale categorical object recognition using contour fragments," IEEE Trans. Pattern Anal. Mach. Intell., vol. 30, no. 7, pp. 1270–1281, Jul. 2008.
10. A. Opelt, A. Pinz, and A. Zisserman, "A boundary-fragment-model for object detection," in Proc. ECCV, 2006, vol. 2, pp. 575–588.
11. D. M. Gavrila, "A Bayesian, exemplar-based approach to hierarchical shape matching," IEEE Trans. Pattern Anal. Mach. Intell., vol. 29, no. 8, pp. 1408–1421, Aug. 2007.
12. X. Bai, Q. Li, L. J. Latecki,W. Liu, and Z. Tu, "Shape band: A deformable object detection approach," in Proc. CVPR, 2009, pp. 1335–1342.
13. J. Shi and J. Malik, "Normalized cuts and image segmentation," IEEE Trans. Pattern Anal. Mach. Intell., vol. 22, no. 8, pp. 888–905, Aug. 2000.
14. M. Yang, K. Kpalma, and J. Ronsin, "A survey of shape feature extraction techniques," Pattern Recognit., pp. 43–90, Nov. 2008.
15. S. Belongie, J. Malik, and J. Puzicha, "Shape matching and object recognition using shape contexts," IEEE Trans. Pattern Anal. Mach. Intell., vol. 24, no. 4, pp. 509–522, Apr. 2002.
16. A. Thayananthan, B. Stenger, P. H. S. Torr, and R. Cipolla, "Shape context and chamfer matching in cluttered scenes," in Proc. CVPR, 2003, vol. 1, pp. I-127–I-133.
17. T. H. Cormen, C. E. Leiserson, R. L. Rivest, and C. Stein, Introduction to Algorithms, 2nd ed. Cambridge, MA: MIT Press, 2001.
18. S. Santini, Exploratory Image Databases: Content-Based Retrieval. New York: Academic Press, 2001.
19. M. Raffel, C. Willert, and J. Kompenhans, Particle Image Velocimetry: A Practical Guide. Berlin: Springer-Verlag, 1998.

8.	**Authors:**	**N. Srinivasa Gupta, M. Satyanarayana**
	Paper Title:	**A Novel Domino Logic for Arithmetic Circuits**

Abstract: This paper presents a low power and high speed ripple carry adder circuit design using a new CMOS domino logic family called feedthrough logic. Dynamic logic circuits are important as it provides better speed and has lesser transistor requirement when compared to static CMOS logic circuits. The proposed circuit has very low dynamic power consumption and lesser delay compared to the recently proposed circuit techniques for the dynamic

logic styles. Problems associated with domino logic like limitation of non-inverting only logic, charge sharing and the need of output inverter are eliminated. The feedthrough logic (FTL) performs a partial evaluation in a computational block before its input signals reach a valid level, and performs a quick final evaluation as soon as the inputs arrive, leading to a reduction in the delay. The FTL is well suited to arithmetic circuits where the critical path consists of a large number of gates. A comparison has been done by simulating the proposed logic style based 10-bit ripple carry adder along with previous logic styles based RCAs. The results show that FTL is the simplest, fastest and consumes least power.

Keywords: Domino logic, Dynamic CMOS logic, Feedthrough logic (FTL), Low power ripple carry adder (RCA)

References:

1. J.M. Rabaey, A. Chandrakasan and B. Nikolic, (2002) Digital Integrated Circuits: A Design perspective 2e NJ:Prentice-Hall, Upper saddle River,.
2. S. Mathew, M. Anders, R. Krishnamurthy and S. Borkar, "A 4 GHz 130nm address generation unit with 32-bit sparse-tree adder core", IEEE J. Solid State Circuits Vol.38 (5) 2003, 689-695.
3. R.K. Krishnamurthy, S. Hsu, M. Anders, B. Bloechel, B. Chatterjee, M. Sachdev and S. Borkar, "Dual Supply voltage clocking for 5GHz 130nm integer execution core", proceedings of IEEE VLSI Circuits Symposium, Honolulu Jun. 2002, 128-129.
4. S. vangal, Y. Hoskote, D. Somasekhar, V. Erraguntla, J. Howard, G. Ruhl, V. Veeramachaneni, D. Finan, S. Mathew, and N. Borkar, "A 5-GHz floating point multiply accumulator in 90-nm dual VT CMOS", in Proc. IEEE Int. Solid-State Circuits Conf., San Francisco, CA, Feb.2003, 334–335.
5. V. Navarro-Botello, J. A. Montiel-Nelson, and S. Nooshabadi, "Analysis of high performance fast feedthrough logic families in CMOS", IEEE Trans. Cir. & syst. II, vol. 54, no. 6, Jun. 2007, 489-493.
6. S R Sahoo and K K Mahapatra, "An improved Feedthrough logic for low power circuit design" in 1st international conference on Recent Advances in Information Technology 2012, 713-716.

9.

Authors: **Shobha Sharma**

Paper Title: **Strained Silicon High-K Metal Gate 22nm CMOS High Speed OR Gate**

Abstract: This paper demonstrates a high speed OR gate in CMOS technology with strained Silicon Metal gate 22nm technology node. The CMOS circuit uses forward body bias instead of reverse body bias which results in high speed .The excessive increase in forward body bias results in ouput level degradation. The simulations are done with HSPICE simulator with Arizona state University's (USA) 'HP ptm ' model of level54. The average decrease in rise and fall time of output voltage is approximately 6% and decrease in propagation delay is 47 % in the forward body biased OR cmos gate. The present circuit can further be modified to preserve the output levels to their maximum levels inspite of very high Forward body bias in order to have higher speed, and this is the future scope of this paper.

Keywords: 22nm, High Speed AND gate, CMOS AND gate, Forward body biasing, Hi K metal Gate Strained Si, ptm models

38-39

References:

1. E chou et al,' SOC design for modern communication, IEEE circuit and device magazine vol17 no 6 p12-17 nov 2001
2. K kundert, Design of mixed signal soc , IEEE tran on CAD,vol19,no 12p1561-15771,dec2000
3. G Gielen et al, CAD of analog and mixed system IC , proceedings of ieee ,vol 85,no 12,p-1825-1854, dec2000
4. F wang et al, variation aware task allocation and scheduling for microprocessor soc, in proceeding of the international conference on CAD,2007,p589-603
5. K Sriniwasan et al ,' integer linear programming and heuristic technique for system level scheduling,Integration-VLSI journal, vol40,no3 p326-354,2007
6. S mohanty et al,' low power high level synthesis for nano scale cmos, springer

10.

Authors: **Mitali K. Dhrangadhria, Kuldeep B. Shukla, Hetal N. Rao**

Paper Title: **The 8051 Micro-Controller 32 bit Multiplication Using Assembly Language**

Abstract: Among, the lot many of microcontroller, 8051 is one of the most popular 8-bit microcontroller. Due to it can address 128kByte of external memory and has a basic instruction time of 1 microsecond. Assembly language is the language, mixture of machine level and higher level programming language called middle language. Thus the list of specific instructions selected from those allowed by the microcontroller manufacturer and organized to control operation constitute computer software. Here we are using multiplexing instruction for two 32-Bit multi plication operation along with other necessary instruction set. This two 32-Bit data will result in (32+32) 64-Bit answer.

Keywords: Microcontroller, Programming Language, Memory, Assembler, Cross Assembler, Register, Register Bank, PSW

40-43

References:

1. Muhammad Ali & Janice Gillispie Mazidi and Rolin D. Mckinlay. "The 8051 Micro Controller and Embadded System using assembly and C", PHI Publication, 2nd Edition 2008-2009, PP No: 115-141, PP No: 153-178 PP No: 183-195.
2. Kenneth Ayala, "The 8051 Microcontroller", Cangage learing products; Canada by Nelson Education, 3rd Edition 2010, PP No: 131-144, PP No: 152-161, PP No: 170-183, PP No: 190-207.
3. Chris Braithwaite, Fred Cowan, Hassanprachzadeh, "8051 Microcontroller And Application based Introduction", 1st Edition, ELSEVIER, 2004, PP No: 38-64, 201-225.
4. Subrata Ghoshal, "Microcontroller: Internals, Instructions, Programming and Interfacing", Pearson Education, 2010.
5. Davies J H, "MICROCONTROLLER BASICS", ELSEVIER, 2011.
6. Burkhard Kainka, "Microcontroller Basics", Tech Publications, 2006.
7. Sampath K. Venkatesh "Microcontroller", S. K. Kataria & Sons.

11.

Authors: **Ajeet Bergaley, Narendra Sharma**

Paper Title: **Optimization of Electrical and Non Electrical Factors in EDM for Machining Die Steel Using Copper Electrode by Adopting Taguchi Technique**

Abstract: EDM machining is used for very hard and complex cutting of conducting materials with higher surface finish and close dimensions. EDM process parameters are affected by both electrical and non electrical parameters. In these paper cutting of hard material high carbon high chromium (HCHcr) D3 steel is done on electro discharge machine with copper as cutting tool electrode. This paper presents a work on the performance parameter optimization for material removal rate (MRR) and electrode wear rate (EWR). There are electrical and non electrical factors which influences MRR and EWR such as voltage ,current pulse on time , pulse off time , dielectric fluid material , flushing pressure, tool rotation etc. In theses paper both the electrical factors and non electrical factors has been focused which governs MRR, EWR and there optimization. Paper is based on Design of experiment and optimization of EDM process parameters .The technique used is Taguchi technique which is a statistical decision making tool helps in minimizing the number of experiments and the error associated with it. The research showed that the peak current has significant effect on material removal rate.

Keywords: Electro discharge machine, high carbon high chromium material, material removal rate, Taguchi technique, Anova test.

References:

1. T.C Bhagat, B.L. Seth , HS payal (2012), "Optimization of EDM process parameters for surface roughness machining of die steel using copper tungsten electrode by Adopting Taguchi array design ", Vol 5, issue 10, ISSN 0974-6846
2. P. janmanee(2011) , "Optimization of EDM of composite 90WC-10Co based on taguchi approch" European journal of scientific research, Vol 64 No. 3, ISSN 1450-216X
3. R.chaudhry(2010), "Analysis and evaluation of heat affected zone in discharge machining of EN 31 die steel", Indian journal of engineering and material science, vol 17 pp.91-98
4. M.L Jeswani (1981); "Effect of addition of graphite powder to kerosene used as dielectric fluid in EDM", journal of wear, Vol 70 , pp133-139
5. H. Narumiya, N. Mohri (1989), "EDM by powder suspended working fluid" , journal of wear, proceeding 9 ISEM, pp 5-8.
6. V.S Murti, Philip (1987) : "A comparative analysis of machining characteristics in ultrasonic assisted EDM by response surface methodology", International journal of product research. 25,2pp.259-272
7. Rama.rao.S.padmanabhan (2012), "Application of Tagchi method for metal removal rate in electro chemical machining of AISI composites", International Journal of Engineering Research and Application, Vol 2, Issue 3 ISSN 2248-9622
8. Hs payal beant (2008) , "Analysis of electro discharge machining EN 31 steel tool" ,journal of industrial and scientific reaserch , Vol 67 pp 1072-1077),
9. P.C Pandey, S.T Jilani (1986): "Plasma channel growth and the resolidified layer in EDM", Precision Eng, 8(2), pp.104-110.
10. S.R Nipanikar (2012), "parameters optimization of EDM of AISI D3 steel material using taguchi method", journal of Engineering research and studies , Vol 3,issue 3,ISSN 0976-7916
11. R. Y. Myers, et al., Response Surface Methodology: Process and Product Optimization using Designed Experiments (3rd edition), Wiley, 2009
12. D.C. Montgomery, Design and Analysis of Experiments (5th edition), John Wiley & Sons (Asia) Pte. Ltd. Singapore, 2004.(ISBN: 0471316490)
13. P.C pandey ,H.S shah , Modern Machining process, Tata McGraW-Hlill publishing Co. Ltd., New delhi 1980

44-48

12.

Authors: **Rosaly B. Alday, Marita Anne T. Gamboa, Vincent R. Buensalida**

Paper Title: **E-Generics: a Mobile Application**

Abstract: Patients believe that branded medicines are more effective than generic ones, but due to high cost of branded ones, patients learned to patronize the generic counterparts due to its cheaper cost and with the belief that it has the same effects in curing ailments. Since medical prescriptions are written by doctors with the branded names, patients tend to ask for the generic counterpart to the salesclerk or pharmacists when buying in the drugstores or pharmacies. In the process, a reference manual is to be consulted by the salesclerk for the proper generic name equivalent of the medicines. It is this context that this study had put into a very handy gadget, the cell phone a mobile application that can be installed and used offline for reference. An algorithm was used to guide the development of the mobile application for easy location of the data from a database using search functions. That is, a ternary search tree algorithm was used to search the database developed through SQLite and the mobile application was developed using Java Android SDK.

Therefore, e-Generics will provide patients or anyone who always buy medicines an easy, fast, reliable and handy reference as it can be easily installed in android cell phones.

Keywords: e-health, medical informatics, medical prescriptions, mobile application, ternary search tree algortihm

References:

1. Android Device Gallery. (2011) http://www.android. com/devices/.
2. Balm Upon Technical Challenges.(2011) http://tech- panacea.blogspot.com/2011/01/ternarysearch-trees.html
3. Depression and Bipolar Support Alliance. (2007). Generic and Brand Name Drugs: Understanding the Basics. http://www.dbsalliance.org/pdfs/GenericRx.pdf.
4. Flint W., 2001. Plant your data in a ternary search Tree.ttp://www.javaworld.com/javaworld/jw-02-2001/jw-0216-ternary.html.
5. MIMS Philippines (2012). http://www.mims.com/.
6. Pollock M., Bazaldua O., Dobbie A. (2007). Appropriate Prescribing of Medications: An Eight- Step Approach. http://www.aafp.org/afp/2007/0115/p231.html.
7. Rothschild J., Lee T., Bae T., Bates D. (2002). Clinician Use of a Palmtop Drug Reference Guide. DOI = http://www.ncbi.nlm.nih.gov/pmc/articles/PMC344582/.
8. Stoppler M. (2009). Buying Prescription Medicine Online: A Consumer Safety Guide", U.S. FDA, August. http://www.medicinenet.com/script/main/art.asp?articlekey=47206.
9. Sutton, S. (2012). "Brands down; generics up." Pharmaceutical Technology Europe July 2011: 8. Academic. OneFile. Web. 19 Mar..
10. The Blue Cross and Shield Association (2006). "Why Use Generic Drugs?". pdfs/whyUseGenerics.pdf.
11. Umali, R., (2012). "Online Drugs Information and Services for Pharmacies in Batangas, Master's Thesis, Lyceum of the Philippines University, Batangas.
12. Yam dela C. (2011). Salamat Dok: Generic vs. branded medicines (March).

49-51

13.	**Authors:**	**Battu Deepa, P.Sudhakara Reddy**	
	Paper Title:	**Comparison of Bit Error Rate and Signal to Noise Ratio for Multi-User MIMO Wireless Applications**	
	Abstract: In this paper, we analyze performance of multi-user(MU)multiple-input multiple-output (MIMO) systems which has emerged recently as an important research topic. In the multi-user MIMO system, downlink and uplink channels are referred to as broadcast channel (BC) and multiple access channel (MAC), respectively. In Broadcast channel data transmission application, the coordinated signal detection on receiver side is mixed with interference. It is very essential to avoid this interference by using different transmission methods at transmitter end. Due to high capacity, increased diversity, and interference suppression; the multi-user MIMO systems are effectively used for broadcast channels applications for efficient data transmission in terms of bit rate at transmitter end and getting maximum signal to noise ratio at the receiver end for next-generation wireless applications. In this paper we compare bit-error rate (BER) and signal to noise ratio (SNR), obtain simulation results and made comparison among different transmission methods which are Channel Inversion (CI), Block Diagnolization(BD), DirtyPaper Coding (DPC) and Tomlinson-Harashima Pre-coding (THP) algorithms. **Keywords:** BER, Broad-cast channel, Multi-user MIMO, Performance comparison, SNR etc. **References:** 1. F.Li, "Aaary processing for multi-user multi-antenna interference channels using pre-coders," wireless personal communications,2012. 2. F.Li, "space-time processing for multi-user multi-antenna z channels with quantized feedback," international journal of computer networks and wireless communications(IJCNWC), 2012. 3. MadanLal,HamneetArora,"BER Performance of Different Modulation Schemes for MIMO Systems", IJCSNS International Journal of Computer Science and Network Security, VOL.11 No.3, March 2011. 4. Yong Soo Cho, Jaekwonkim, Won Young Yang,Chung G. Kang "MIMO-OFDMWwirelessCommunications with MATLAB.Book". 5. F.Li, "Multi-Antenna Multi-user interference cancellation and detection using precoders," Ph.D. thesis, UC Irvine,2012. 6. M.Chiani, M.Z.Win, H.Shin, "MIMO networks: The effect of interference,"IEEE Transactions on information theory, Vol.56, no.1, pp.336-349, 2010. 7. Exploiting spatial and frequency diversity in spatially correlated multi-user MIMO downlink channels, journal of computer networks and communications volume 2012(2012), article id414796, 10pages,doi:10,1155/2012/414796. 8. Saeid, Elsadig, VarunJeoti and BrahimBelhaouari Samir. "Pre-coding for Multiuser MIMO." Developments in Wireless Network Prototyping, Design,and Deployment:Future Generations.IGIGlobal, 2012.130-156.Web. 14 Jul. 2013. doi:10.4018/978-1-4666-1797-1.ch007. 9. Yong feng, jichuanguo and ji-li, "A new interference alignment algorithms in the MIMO-OFDM system," information technology journal,12: 935-942,2013. 10. Saif khan Mohammed,Erik G.Larsson."per-antenna constant envelope pre-coding for large multi-user MIMOsystem,"IEEE transactions on communications,2012. 11. Zeng W L, Xiao C S, Wang M X, et al. "Linear precoding for finite-alphabet inputs over MIMO fading channels with statistical CSI," IEEE Transactions on signal processing,2012,60(6):3134-3147. 12. Prof.V.Kejalakshmi, Dr.S.Arivazhagan, "MIMO downlink precoding with channel mismatch error for simplified receivers," international journal of distributed and parallel systems(IJDPS) Vol.2,No.4, July 2011. 13. XuJie, Li Shico, QIU ling, Slimane Bens, "Energy efficient downlink MIMO transmission with linear precoding," science china information sciences,2013,56(2):022309(12). 14. F.Wang and M.E.Bialkowski, "performance of Block diagonalization broadcasting schemes for multi-user MIMO system operating in presence of spatial correlation and mutual coupling," international journal of communications, network and system sciences, Vol.3, march 2010,pp.266-272.doi:10.4236/ijcns.2010.33034. 15. F.Wang,X.Liu and M.E.Bialkowski, "performance of Block diagonalization for multiuser MIMO system with uniform circular array and uniform linear array: A compare," proceedings of 6thinternational conference on wireless communication, networking and mobile computing, Chengdu,23-25, September 2010,pp.1-4. 16. F.Wang and M.E.Bialkowski, "Fast transmit antenna selection scheme employing Block diagonalization for multiuser MIMO system," proceedings of asia-pacifia microwave conference,yohohama,7-10 december 2010,pp.1-5. 17. JaydipsinhJ.chavda, kalpeshR.chudasama,Ravi J.Bagatharia, prof.sunerakargathara, "performance analysis of Block diagonalization and Dirty paper coding precoding technique in multiuser MIMO system,"international journal of engineering research &technology (IJERT),ISSN:2278-0181,Vol.1 ISSUE 10,December 2012. 18. Costa, M. H., "Writing on dirty paper," IEEE Trans. Inf. Theory, Vol. 29, No. 3, 439{441, May 1983. 19. Du J, Li S L. "Tomlinson-Harashima precodingfor multiuser MIMO downlink with imperfect channel state information,"proceedings of the 3rd international conference on measuring technology and mechatronics automation (ICMTMA'11), Jan 6-7,2011, Shanghai, China. Piscataway, NJ,USA:IEEE,2011:1027-1030.	**52-55**
14.	**Authors:**	**Puneet Rohilla, Narinder Kumar**	
	Paper Title:	**Experimental investigation of Tool Geometry on Mechanical Properties of Friction Stir Welding of AA6061**	
	Abstract: AA 6061 has gathered wide acceptance in the fabrication of the light structures required to high strength. Compared to the fusion welding processes that are used for joining structural aluminium alloys, friction stir welding (FSW) process is an emerging solid state joining process in which the material that is being welded does not melt and recast. In this experimental work, an extensive investigation has been carried out on FSW butt joint. Welded joints were made with the help of tool made of high speed steel (HSS) alloy steel. Tools were of two different pin profiles viz. straight cylindrical, and square. The welded joints were made on aluminum grade AA 6061 plates of 6 mm thick. Tests were conducted to determine the tensile strength, percentage elongation and micro hardness. In my investigation, tool rotation and traverse speeds are kept constant i.e. 2000 rpm and 20 mm/min. The variables are shape of the tool and having passes one sided and both sided. Cylindrical tool pin profile exhibited superior tensile properties compared to other joints, irrespective of tool rotational speed in double pass. The joints fabricated by single pass have shown lower tensile strength and also percentage of elongation compared to the joints fabricated by double pass and this trend is common for all the tool profiles. **Keywords:** Friction Stir Welding (FSW), Aluminium AA 6061, Tensile strength	**56-61**

References:
1. W.M. Thomas, C.J.Dawes, International Patent No. PCT/GB92/02203.
2. Introduction to Friction Stir Welding Handbook, ESAB.
3. S.Ugender, A.Kumar, A. Somi Reddy, A. Devaraju of influence of process parameters on mechanical properties of friction stir welded AA 6061-t6 alloy and Mg az31b alloy.
4. A. Heidarzadeh, H. Khodaverdizadeh, A. Mahmoudi, E. Nazari, Tensile behavior of friction stir welded AA 6061-T4 aluminum alloy joints, Materials & Design Volume 37, May 2012, Pages 166–173.
5. Prashant Prakash, Sanjay Kumar Jha, Shree Prakash Lal of a study of process parameters of friction stir welded AA 6061 aluminum alloy (June 2013).
6. K. Bhanumurthy, N. T. Kumbhar, study of Friction stir welding of AA6061 alloy (2008).
7. K. Elangovan, V. Balasubramanian, influences of tool pin profile and tool shoulder diameter on the formation of FSW processing zone in AA6061 alloy 29(2008) 362-373.

15.

Authors: **Sunil MP, Ashik Narayan, Vidyasagar Bhat, Vinay S**

Paper Title: **Smart Biogas Plant**

Abstract: The project investigates the development of a low cost, efficient, portable biogas plant for the generation of energy from discarded kitchen wastes and food waste. The main purpose of the project is to cut down on the landfill wastes and generate a reliable source of renewable, decentralized source of energy for the future. Biogas generation does not require a complex technology and can be applied globally. Kitchen waste discarded causes public health hazards, the project also looks into prevention of various diseases including malaria, typhoid and also meets the social concerns in the society. Household digesters represent a boon for urban and rural people to meet their energy needs. These digesters help in two ways: one is to reduce waste and the other is to provide valuable energy.

Keywords: Biogas, Digesters, GSM, Kitchen waste, MQ5-Gas Sensor, PIC Microcontroller.

References:
1. Biogas Plant based on Kitchen Waste by S. P. Kale and S. T. Mehetre, Nuclear Agriculture and Biotechnology Division.
2. Karve .A.D. (2007), Compact biogas plant, a low cost digester for biogas from waste starch. http://www.arti-india.org.
3. Karve of Pune A.D (2006). Compact biogas plant compact low-cost digester from waste starch. www.bioenergylists.org.
4. Singh, Shalini ; Sushil Kumar, ; Jain, M. C. ; Kumar, Dinesh (2001), Increased biogas production using microbial stimulants Bioresource Technology, 78 (3). pp. 313-316. ISSN 0960-8524
5. A.H. Igoni, M.F.N. Abowei, M.J. Ayotamuno and C.L. Eze. "Effect of Total Solids Concentration of Municipal Solid Waste on the Biogas produced in an Anaerobic Continuous Digester". Agricultural Engineering International: the CIGR Ejournal. Manuscript EE 07 010. Vol. X. September, 2008.
6. Tanzania Traditional Energy Development and Environment Organization (TaTEDO),
7. BIOGAS TECHNOLOGY- Construction, Utilization and Operation Manual.
8. The University of Southampton and Greenfinch Ltd. - Biodigestion of kitchen waste A comparative evaluation of mesophilic and thermophilic biodigestion for the stabilisation and sanitisation of kitchen waste.
9. Ranjeet Singh, S. K. Mandal, V. K. Jain (2008), Development of mixed inoculum for methane enriched biogas production.
10. Kumar, S., Gaikwad, S.A., Shekdar, A.K., Kshirsagar, P.K., Singh, R.N. (2004). Estimation method for national methane emission from solid waste landfills. Atmospheric Environment. 38: 3481–3487.
11. Jantsch, T.G., Matttiason, B. (2004). An automated spectropphoyometric system for monitoring buffer capacity in anaerobic digestion processes. Water Research. 38: 3645-3650.
12. Thomsen, A.B., Lissens, G., Baere, L., Verstraete, W., Ahring, B. (2004). Thermal wet oxidation improves anaerobic biodegradability of raw and digested biowaste, Environmental Science and Technology, 38 (12), pp 3418–3424, 2004
13. Meres, M., Szczepaniec-Cieciak, E., Sadowska, A., Piejko, K., Oczyszczania, M.P., Szafnicki, K. (2004). Operational and meteorological influence on the utilized biogas composition at the Barycz landfill site in Cracow, Poland. Waste Management Resource. 22: 195–201.
14. Jong Won Kang, Chang Moon Jeong, Nag Jong Kim, Moon Il Kim, Ho Nam Chang. (2010). "On-site removal of H 2 S from biogas produced by food waste using an aerobic sludge biofilter for steam reforming processing", Biotechnology and Bioprocess Engineering - BIOTECHNOL BIOPROCESS ENG , vol. 15, no. 3, pp. 505-511, 2010.

62-66

16.

Authors: **P.S.Patil, M.G.Shaikh**

Paper Title: **A Study of Effect of Shear Connector in Composite Beam in Combined Bending and Shear by Ansys**

Abstract: The use of composite structures is increasingly present in civil construction works. Steel-concrete composite beams, particularly, are structures consisting of two materials, a steel section located mainly in the tension region and a concrete section, located in the compression cross sectional area , both connected by metal devices known as shear connectors. The main functions of these connectors are to allow for the joint behavior of the beam-slab, to restrict longitudinal slipping and uplifting at the elements interface and to take shear forces. This paper presents 3D numerical models of steel-concrete composite beams to simulate their structural behavior, with emphasis on the beam-slab interface. Simulations were carried out using version 14.0 ANSYS code, based on the Finite Element Method. The results obtained were compared with those provided either by Standards, experimental work or found in the literature, and such comparison demonstrated that the numerical approach followed is a valid tool in analyzing steel concrete composite beams performance.

Keywords: ANSYS.14, composite beams, shear connectors, numerical modeling, finite element

References:
1. ANSYS.Version14.0Documentation. ANSYS, Inc.
2. Chapman, J. C. and Yam, L. C. P. "The Inelastic Behaviour of Simply Supported Composite Beams of Steel and Concrete", Proceedings Institution of Civil Engineers, Vol. 41, December 1968, pp. 651-683.CHAPMAN, J. C. Composite construction in steel and concrete – the behaviour of composite beams. The Structural Engineer, v. 4, 1964, p. 115–125.
3. Chapman,J.C.;Balakrishnan,S.Experiments on composite beams. The Structural Engineer, v. 42, 1964, p. 369–383
4. Eurocode 4. Common United rules for composite steel and concrete structures. ENV 1994-1-1, 1992, 1992
5. G.FabbrociNo, G Manfredi *, E. Cosenza Non-linear analysis of composite beams under positive bending
6. Qing Quan Liang, Hamid R Ronagh , Mark A Bradford "Strength Analysis of composite beam in combined bending and shear"

67-74

17.	**Authors:**	**Jatinder Kaur, Ira Gabba**	
	Paper Title:	**Steganography Using RSA Algorithm**	
	Abstract: Steganography is the art and science of writing hidden messages in such a way that no one, apart from the sender and intended recipient, suspects the existence of the message, a form of security through obscurity. It is an emerging area which is used for secured data transmission over any public media. In this study a novel approach of image steganography based on LSB (Least Significant Bit) insertion and RSA encryption technique for the lossless jpeg images has been proposed. In this paper, we present a strategy of attaining maximum embedding capacity in an image in a way that maximum possible neighboring pixels are analyzed for their frequencies, to determine the amount of information to be added in each pixel. The technique provides a seamless insertion of data into the carrier image and reduces the error assessment and artifacts insertion required to a minimal. We justify our approach with the help of an experimental evaluation on a prototypic implementation of the proposed model. **Keywords:** Cryptography, Steganography, RSA Algorithms. **References:** 1. Raja K B, C R Chowdary, Venugopal K R, L M Patnaik. (2005) :"A Secure Steganography using LSB, DCT and Compression Techniques on Raw Images," IEEE International Conference on Intelligence Sensing and Information processing, pp.171-176. 2. Kumar V and Kumar D. (2010): "Performance Evaluation of DWT Based Image Steganography," IEEE International Conference on Advance Computing, pp. 223-228. 3. Weiqi Luo, Fangjun Huang, and Jiwu Huang. (2010): "Edge Adaptive Image Steganography Based on LSB Matching Revisited," IEEE Transactions on Information Forensics and Security, no. 2, vol. 5, pp. 201-214. 4. R O El Safy, H H Zayed and A El Dessouki (2009): "An Adaptive Steganographic Technique Based on Integer Wavelet Transform," International Conference on Networking and Media Convergence, pp.111-117. 5. Mathkour H, Al-Sadoon B and Touir A. (2008): "A New Image Steganography Technique. :" International Conference on Wireless Communications, Networking and Mobile Computing, pp.1-4. 6. V Vijaylakshmi,G Zayaraz and V Nagaraj. (2009):"A Modulo Based LSB Steganography Method," International Conference on Control,Automation,Communication and Energy Conservation, pp. 1-4. 7. Wien Hong, Tung-Shou Chen and Chih-Wei. (2008):"Lossless Steganography for AMBTC-Compressed Images," Congress on Image and Signal Processing, pp.13-17. 8. A W Naji, Teddy S Gunawan, Shihab A Hameed, B B Zaidan and A A Zaidan. (2009): "Stego-Analysis Chain, Session One," International Spring Conference on Computer science and Information Technology, pp. 405-409. 9. M Hassan Shirali-Shahreza and Mohammad Shirali-Shahreza. (2008): "A New Synonym Text Steganography," International Conference on Intelligent Information Hiding and Multimedia Signal Processing, pp. 1524-1526. 10. Vladimir Banoci, Gabriel Bugar and Dusan Levicky (2009): "Steganography Systems by using CDMA Techniques," International Conference on Radioelectronika, pp.183-186. 11. Chen Ming, Zhang Ru, Niu Xinxin and Yang Yixian (2006): "Analysis of Current Steganographic Tools: Classifications and Features," International Conference on Intelligent Hiding and Multimedia Signal Processing, pp. 384-387. 12. Mankun Xu, Tianyun Li and Xijian Ping. (2009): "Estimation of MB Steganography Based on Least Square Method," International Conference on Acoustics, Speech and Signal Processing, pp. 1509-1512. 13. Abbas Cheddad, Joan Condell, Kevin Curran and Paul Mc Kevitt. (2008): "Enhancing Steganography in Digital Images," Canadian Conference on Computer and Robot Vision, pp. 326-332. 14. Aos A Z, A W Nazi, Shihab A Hameed, Fazida Othman, B B Zaidan. (2009): "Approved Undetectable-Antivirus Steganography," International Spring Conference on Computer and Information Technology, pp. 437-441. 15. Daniela Stanescu, Valentin Stangaciu, Loana Ghergulescu and Mircea Stratulat. (2009): "Steganography on Embedded Devices," International Symposium on Applied Computational Intelligence and Informatics, pp. 313-318. 16. Jin-Suk Kang, Yonghee You and Mee Young Sung (2007): "Steganography using Block-Based Adaptive Threshold," International symposium on Computer and Information Sciences, pp. 1-7. 17. Mci-Ching Chen, Sos S Agaian and C L Philip Chen. (2008): "Generalised Collage Steganography on Images," International Conference on Systems, Man and Cybernetics, pp.1043-1047. 18. Neha Agarwal and Marios Savvides. (2009): "Biometric Data Hiding: A 3 Factor Authentication Approach to Verify Identity with the Single Image using Steganography, Encryption and Matching," International Conference on Computer vision and pattern recognition, pp.85-92.	**75-79**
18.	**Authors:**	**Naveen Hooda, Parveen Singh, Bhupinder Singh, Vivek Verma, Sandeep Dhiman**	
	Paper Title:	**Modern Trends in Construction**	
	Abstract: Recent trends in construction become indispensible in the coming years to emphasize on sustainable development. The paper discusses the significance and scope of modern trends in construction techniques as foundations, foundation in problematic soil, walls, doors, windows, lintel and shelves, damp proofing, water proofing, floors, roofs. The paper emphasizes on using different types of materials in modern trends and for effectiveness in infrastructure building for rapid economic growth and development of a nation using recent advancements in the field of construction technology. **Keywords:** walls, doors, windows **References:** 1. Basic and applied soil mechanics by Gopal Ranjan and ASR Rao, New age int. Pub. 2. Rangawala, S. C., Engineering Material, Charotar Publishing House, Anand. 3. Rangawala, S. C., Building Construction, Charotar Publishing House, Anand. 4. Merritt, F. S., Building Construction Handbook, McGraw Hill Book Company, New York (USA). 5. Arora, S. P. and Bindra, S. P., A Text Book of Building Construction, Dhanpat Rai & Sons, New Delhi. 6. Arya, A. S. and Ajmani, J., Design of Steel Structures, Nem Chand & Bros., Roorkee. 7. ASHRAE Handbooks.	**80-83**
19.	**Authors:**	**Naveen Hooda, Jyoti Narwal, Bhupinder Singh, Vivek Verma, Parveen Singh**	
	Paper Title:	**An Experimental Investigation on Structural Behaviour of Beam Column Joint**	
	Abstract: Conventional concrete loses its tensile resistance after the formation of multiple cracks. However,		**84-88**

fibrous concrete can sustain a portion of its resistance following cracking to resist more loading. The strength of concrete is appreciably increased by the crack arresting mechanism of the fibres and the ultimate strength is also increased because extra energy is needed to cause fracture of the fibre reinforcing the concrete. Beam-column joints have a crucial role in the structural integrity of the buildings. For this reason they must be provided with adequate stiffness and strength to sustain the loads transmitted from beam and columns. For adequate ductility of beam-column joints, use of closely spaced hoops as transverse reinforcement was recommended. In the present study an attempt has been made to investigate the behaviour of exterior beam-column joint with different detailing of reinforcement, different spacing of connecting ties and with different percentage of steel fibres.

Initially three specimens (SP1, SP2 and SP3) with different detailing of reinforcement were tested. Then specimen SP2 was selected for further investigation based on its structural performance and ease of detailing. Two more Specimens were tested with different spacing of ties/stirrups. Finally, to investigate the effect of addition of fibres on behaviour of performance of joints, three specimens (SP6, SP7 and SP8) with volume fractions of 0.5%, 1.0% and 1.5% steel fibres were cast and tested.

The results obtained from the investigation indicated that addition of steel fibres in the concrete mix improved structural performance of beam column joints measured in terms of ultimate load carrying capacity, stiffness, crack width, deflection and curvature ductility factor. Steel fibre reinforced concrete is one of the possible alternative solutions for reducing the congestion of transverse reinforcement in beam column joints. Thus with the reduction of congestion of reinforcement in the joint core helps in the ease of construction difficulties, while maintaining ductile behaviour of the frame, With the increase in the percentage of fibres from 0.05% to1.5% in the joint core the deflection and curvature at peak load increased. Specimen SP8 containing 1.5% of steel fibre in the joint core have higher value of rotation (φ), as compared with conventional specimen SP2.This clearly shows that the congestion of reinforcement in the core of beam column joint can be reduced by the addition of steel fibre in the joint core with increase in the spacing of hoops/ties. It was also observed in the study that the deflection and curvature also increases with the decrease in spacing of hoops/tie.

Keywords: Fibre, SP6, SP7

References:

1. Taylor, H.P.J, “The Behaviour of in site beam-column joints". Technical Report 42.492, Cement and concrete association. May 1974.
2. Park R, and Paulay,T.,"Reinforced concrete structure" John Wiley and Sons, New York, 1975.
3. Ryan, J., "Reinforced concrete beam-column connections", concrete magazine, March 1977, PP.37-39
4. Craig, R., S. Mahadev, C.C. Patel, M. Viteri, and C. Kertesz. "Behavior of Joints Using Reinforced Fibrous Concrete." Fiber Reinforced Concrete International Symposium, SP-81, American Concrete Institute, Detroit, 1984, pp. 125-167
5. Lakshmipathy, M., and A. Santhakumar. "Experimental Verification of the Behaviour of Reinforced Fibrous Concrete Frames Subjected to Seismic Type of Loading."Third International Symposium on Developments in Fibre Reinforced Cement Concrete, Rilem, July 1986.
6. Gefken, P.R., and M.R. Ramey. "Increased Joint Hoop Spacing in Type 2 Seismic Joints Using Fiber Reinforced Concrete." ACI Structural Journal, Mar-Apr. 1989, pp.168-172.90
7. Soroushian, P., and Z. Bayasi. "Local Bond Behavior of Deformed Bars in Steel Fiber Reinforced Concrete Joints." Magazine of Concrete Research, June 1990, pp. 39-43
8. V. Kumar, B.D Nautiyan and S.Kumar/'A Study of exterior beam-column joints". The India Concrete journal, January 1991, PP-39-44.
9. Bayasi, Z., and H. Kaiser. "Steel Fibers as Crack Arrestors in Concrete." The Indian Concrete Journal, to be published April 2001.
10. In 2008, Narayanan R., and I. Darwish. "Use of Steel Fibers as Shear Reinforcement." ACI Structural Journal, May-June 2008, pp. 216-227.

20.

Authors: **Praneet .R. Shah, Naganath.B.Hulle**

Paper Title: **Hardware Implementation of ZUC Stream Cipher**

Abstract: Stream ciphers are more efficient as compared to block ciphers, when implemented in hardware environment, like Field Programmable Gate Array (FPGA). In this paper a high throughput hardware implementation of ZUC stream cipher is presented. ZUC is a stream cipher that forms the heart of the 3GPP confidentiality algorithm 128-EEA3 and the 3GPP integrity algorithm 128-EIA3. This algorithm offers reliable security services in Long Term Evolution networks (LTE), which is a candidate standard for the 4G network. A detailed hardware implementation is presented in order to reach satisfactory performance results in LTE systems. The design is being coded using VHDL language and for the hardware implementation, a XILINX Virtex-5 FPGA is used [1][2].

Keywords: 3GPP, FPGA, Long Term Evolution networks security, ZUC.

References:

1. Paris Kitsos, Nicolas Sklavos and Athanassios N. Skodras I, IEEE,“An FPGA Implementation of the ZUC stream cipher”. 2011 14th Euromicro Conference on Digital System Design.
2. Lei Wang, Jiwu Jing, Zongbin Liu, Lingchen Zhang, and Wuqiong Pan,” Evaluating Optimized Implementations of Stream Cipher ZUC Algorithm on FPGA”, The First International Workshop on ZUC Algorithm Dec 2-3, 2010, Friendship Hotel, Beijing, China.
3. TANG Ming, CHENG Ping Pan, QIU ZhenLong,” Differential Power Analysis on ZUC Algorithm”, The 2009 International Symposium on Web Information Systems and Applications(WISA 2009) 22 – 24, May 2009 Nanchang, China.
4. Li Ji ,”Improved differential paths of ZUC”, The Second International Work shop on ZUC Algorithms,June 6,2011.
5. Thomas Fuhr, Henri Gilbert, Jean-René Reinhard, and Marion Videau,” Analysis of the Initial and Modified Versions of the Candidate 3GPP Integrity Algorithm 128-EIA3”, The Second International Work shop on ZUC Algorithms, June 6,2011.
6. Dave Gardner,” Definations of eStream Ciphers and ZUC”, May 12, 2011.
7. Michalis Galanis, Paris Kitsos, Giorgos Kostopoulos, Nicolas Sklavos, and Costas Goutis,” Comparison of the Hardware Implementation of Stream Ciphers”, The International Arab Journal of Information Technology, Vol. 2, No. 4, October 2005,267-274.
8. Scott fluhrer ,Itsik Mantin and Adi Shamir,”Weakness in the key scheduling algorithm for RC4”Jan 2011.
9. Sandeep Kumar, Kerstin Lemke, Christof Paar,” Some Thoughts about Implementation Properties of Stream Ciphers”, Presentation at SASC Oct 15 2004.
10. Sourav Sen Gupta, Anupam Chattopadhyay, Member, IEEE, Koushik Sinha, Member, IEEE,Subhamoy Maitra, Bhabani P. Sinha, Fellow,

IEEE," High Performance Hardware Implementation for RC4 Stream Cipher", International Journal of Cryptology Research 1(2): 225-233 (2009) ,1-15.
11. Jaya Dofe, Manish Patil," Hardware Implementation of Modified RC4 Stream Cipher Using FPGA", IOSR Journal of Engineering (IOSRJEN) ISSN: 2250-3021 Volume 2, Issue 6 (June 2012), PP 1447-1450.
12. Allam Mousa and Ahmad Hamad," Evaluation of the RC4 Algorithm for Data Encryption", Journal of ELECTRICAL ENGINEERING, VOL. 60, NO. 3, 2009, 155–160.
13. P. Kitsos, G. Kostopoulos, N. Sklavos, and 0. Koufopavlou," HARDWARE IMPLEMENTATION OF THE RC4 STREAM CIPHER", IOSR Journal of Engineering (IOSRJEN) ISSN: 2250-3021 Volume 2, Issue 6 (June 2012), PP 1447-1450.
14. N. B. Hulle , R. D. Kharadkar , A. Y. Deshmukh," Novel Hardware Implementation of Modified RC4 Stream Cipher for Wireless Network Security", International Journal of Computer Applications (0975 – 888) Volume 47– No.7, June 2012.

21.

Authors: **Parag R. Thakare, Raj A. Jadhav, Hastimal S. Kumawat**

Paper Title: **Watershed Management-A case study of Satara Tanda Village**

Abstract: Water is the most critical component of life support system. India shares about 16% of the global population but it has only 4% of the water resources. The national water policy gives priority to drinking water followed by agriculture, industry and power. The single most important task before the country in the field of India's water resource management is to pay special attention to rainwater conservation, especially which falls on our vast rain-fed lands but most of which flows away from it.
The Marathwada region is declared the drought for this year by state government, to overcome the water scarcity watershed management is decided to do near the Sataratanda it is the outskirt region of Aurangabad city. The proposed site of watershed management structure bandhara is located on stream flowing near the Sataratanda village. The proposed bandhara is design for the conservation of water and recharging into the ground to raise the water table of this particular area for the benefits to villagers, fields & farmers. Since last few decades the demand for water had rapidly grown and with the increasing population would continue to rise in future. In Maharashtra, the assessment of ground water potential and scope for artificial recharge in the overdeveloped watershed is very crucial. The total cost of cement bandhara works about 9 lakhs thus the scheme is found economically feasible. The quantity of water store in the bandhara basin is 0.74 TCM.

Keywords: Bandhara, Water Conservation, Watershed Management

References:

1. H. Rao, "Watershed development in India: recent experience and emerging issues," economic and potential weekly, November 4, 2000, pp. 3943- 3947.
2. C.N. Maggirwar, "Suitability of water harvesting, conservation and Artificial Recharge Techniques in Relation to Watershed Behaviour in Maharashtra," All India Seminar on Modern Techniques of Rain Water Harvesting, Water Conservation and Artificial Recharge for Drinking Water, Afforestation, Horticulture and Agriculture, 1990.
3. J. Kerr, "Watershed project performance in India: Conservation, productivity, and equity", American Journal of Agricultural Economics, 83 (5), 2001, pp. 1223-1230.
4. R. S. Deshpande, V. R. Reddy, "Differential impact of watershed based technology: Some Analytical Issues", Indian Journal of Agricultural Economics, 46(3), 1991, pp. 261-269.
5. B. K. Kakade, "Soil and Water Conservation Structure in watershed development," published by BAIF development research foundation, Pune, India.
6. A. Agrawal, "Common Property Institutions and Sustainable Governance of Resources," World Development 29(10), 2001, pp. 1649-1672.
7. A. Hazare, G. Pangare and V. Lokur, Adarsha Gaon Yojana: government participation in a peoples programme (ideal village project of the govt. of Maharashtra). Pune, India, 1996.

92-96

22.

Authors: **S. P. Sharma, S. D. Kolte, N. S. Marape, S. D. Darshanwad, S. K. Dongare, H. S. Kumawat**

Paper Title: **Comparison of the Design of Water Treatment Plant by Manual and by Software Method**

Abstract: The primary objective of any water supply scheme is to provide safe and adequate water supply to the area for which it is designed. Water treatment plant is the key component of such a water supply scheme, which transforms the raw water into potable water by using the appropriate treatment processes. The selection of treatment processes depends upon the raw water quality and the finished water quality objectives. The design of components of water treatment plant, construction together with good operation is very essential for water treatment plant.
In this project an attempt is made to design the conventional Water Treatment Plant of capacity is 100 MLD by manually and also by using the software. All the components of water treatment plant are included in this design. The results of design obtained by using manual method are compared with results of software method.The comparative study shows that which method is very accurate, easy and useful for the design of water treatment plant

Keywords: Aerator, Chlorination, Clariflocculator, Water treatment plant, WTPSOFT02

References:

1. A. G. Bhole, "Design of Water Treatment Plants", Indian Water Works Association, Nagpur Centre, Nagpur, pp. 123-150
2. CPHEEO, Manual of Water Supply and Treatment, Ministry of Urban Development, New Delhi,1999
3. Prachi services, "User guide of software", Prachi services, Jogeshwari, Mumbai.

97-100

23.

Authors: **Shweta Jain, Shubha Mishra**

Paper Title: **ANN Approach Based On Back Propagation Network and Probabilistic Neural Network to Classify Brain Cancer**

Abstract: This paper presents the artificial neural network approach namely Back propagation network (BPNs) and probabilistic neural network (PNN). It is used to classify the type of tumor in MRI images of different patients with Astrocytoma type of brain tumor. The image processing techniques have been developed for detection of the tumor in the MRI images. Gray Level Co-occurrence Matrix (GLCM) is used to achieve the feature extraction. The whole

101-105

system worked in two modes firstly Training/Learning mode and secondly Testing/Recognition mode.

Keywords: Brain Cancer, MRI, Gray Level Co-occurrence Matrix, Texture Features, Back Propagation Network and Probabilistic Neural Network.

References:

1. Arpita Das and Mahua Bhattacharya, "A Study on Prognosis of Brain Tumors Using Fuzzy Logic and Genetic Algorithm Based Techniques", @2009 IEEE
2. G Vijay Kumar and Dr GV Raju, "Biological Early Brain CancerDetection usingAatificial NeuralNetwork", International Journal on Computer Science and Engineering, Vol. 02, No. 08, 2010;
3. Jayashri Joshi and Mrs.A.C.Phadke, "Feature Extraction and Texture Classification in MRI", IJCCT, Vol. 2 Issue 2, 3, 4, 2010;
4. P. Mohanaiah, P. Sathyanarayana and L. GuruKumar, "Image Texture Feature Extraction Using GLCM Approach", International journal of scientific and research publications, Vol. 3, Issue 5, May 2013
5. S.N.Deepa and B.Aruna Devi, "Artificial Neural Networks design for Classification of Brain Tumour", @2012 IEEE.
6. S.N. Sivanandam and S.N. Deepa, "Principle of Soft Computing", WILEY INDIA EDITION, Pages 74-83, 1993.
7. Dina Aboul Dahab, Samy S. A. Ghoniemy and Gamal M. Selim, "Automated Brain Tumor Detection and Identification Using Image Processing and Probabilistic Neural Network Techniques", International Journal of Image Processing and Visual Communication, Vol. 1, Issue 2, October 2012.
8. Dr. M. Karnan and T.Logheshwari, "Improved Implementation of Brain MRI image Segmentation using Ant Colony System", @2010 IEEE;
9. S.N. Deepa and B. Aruna Devi, "A survey on artificial intelligence approaches for medical image classification", Indian Journal of Science and Technology, Vol. 4, No. 11, Nov 2011;
10. Carlos Arizmendi, Juan Hernandez-Tamames, Enrique Romero, Alfredo Vellido and Francisco del Pozo, "Diagnosis of Brain Tumours from Magnetic Resonance Spectroscopy using Wavelets and Neural Networks", @2010 IEEE.
11. D. Jude Hemanth, C.KeziSelvaVijila and J.Anitha, "Application of Neuro-Fuzzy Model for MR Brain Tumor Image Classification", International Journal of Biomedical Soft Computing and Human Sciences, Vol.16, No.1, 2010;
12. Carlos Arizmendi, Daniel A. Sierra, Alfredo Vellido and Enrique Romero, "Brain Tumour Classification Using Gaussian Decomposition and Neural Networks", @2011 IEEE
13. Kadam D. B., Gade S. S., M. D. Uplane and R. K. Prasad,"Neural Network based Brain Tumor Detection using MR Images",International Journal of Computer Science and Communication, Vol. 2, No. 2, July-Dec2011;
14. T. Logeswari and M. Karnan,"An improved implementation of brain tumor detection using segmentation based on soft computing",Journal of Cancer Research and Experimental Oncology, Vol. 2, March 2010;
15. Mehdi Jafari and ShohrehKasaei, "Automatic Brain Tissue Detection in MRI Images Using Seeded Region Growing Segmentation and Neural Network Classification", Australian Journal of Basic and Applied Sciences, 5(8), 2011;
16. Jason J. Corso, Eitan Sharon, ShishirDube, Suzie El-Saden, UshaSinha, and Alan Yuille, "Efficient Multilevel Brain Tumor Segmentation WithIntegrated Bayesian Model Classification", @ 2008 IEEE.
17. Christos Stergion and Dimitrios Siganos, "Neural Networks", Pages 2-6.
18. Alaa ELEYAN and Hasan DEMIREL, "Cooccurrence matrix and its statistical features as a new approach for face recognition", Turk J Elec Eng & Comp Sci, Vol. 19, No. 1, 2011
19. Ahmed KHARRAT, Nacéra BENAMRANE, Mohamed Ben MESSAOUDand Mohamed ABID, "Detection of Brain Tumor in Medical Images", @2009 IEEE.
20. Mohamed LamineToure,ZouBeiji,Felix Musau and AboubacarDamayeCamara, "Advanced Algorithm for Brain Segmentation using Fuzzy to Localize Cancer and Epilespy Region", @2010 IEEE.

	Authors:	**Tushara T, Rajalakshmi P, Bino I Koshy**
	Paper Title:	**Mode Choice Modelling For Work Trips in Calicut City**

Abstract: Transportation modelling plays an important role in supporting transportation planning. Work trips are centre of focus of urban transportation planning and policy analysis. This may causes congestion in peak hours in the urban transportation network. One of the important aspects of transportation modelling is to predict the travel choice behaviour. The travel choice behaviour is also referred to as traveller mode choice, which is the most frequently modelled travel decision. It involves a specific aspect of human behaviour dedicated to choice decisions. With a model, as simplified representation of a part of reality provides a better understanding and interpreting of these complex systems. This paper investigates mode choice behaviour of employers in Calicut city. A multinomial logit model (MNL) with statistical data processing software SPSS was used for explaining travel patterns and mode choice of employees residing in Calicut city. MNL model was developed and identified the factors influencing the mode choice of work trips.MNL is widely used model in the discrete choice model and it has many computational advantages.

24.

Keywords: MNL model, Mode choice, Utility, work trips, employees.

106-113

References:

1. N. A Saad and R. B William, "Modeling Saudi –Arabia Bahrin corridor mode choice."Trans. Geo. , Vol 3, No.4,1995,PP .349-353.
2. F. Koppelman and C. Bhat , "A self instructing course in mode choice modeling: Multinomial and Nested Logit Models." U.S. Dept. Of Trans,2006.
3. Gang Liu, "A behavioral model of work-trip mode choice in Shanghai" Discussion Papers No. 444, 2006, Norway, Research Department.
4. A. De Palma and D. Rochat, "Mode choices for trips to work in Geneva: An empirical analysis."Trans. Geogr.8, 2000, 43-51.
5. M. K Nurul Habib, "Modeling commuting mode choice jointly with work start time,"Transportation Research Part A 46 ,2012,pp 33–47
6. J. Prashker, Y. Shiftan , P. Hershkovitch –Sarusi, "Residential choice location, gender and the commute trip to work in Tel Aviv," Journal of Transport Geography 16, 2008, 332–341.
7. D.B Madan and R Groenhout , "Modelling Travel Mode Choices For The Sydney Work Trip," Journal Of Transport Economics and Policy, May 1987.
8. H. L Chang and W. U Shuen-Cheng, "Exploring The Mode Choice in Daily Travel Behaviour Of The Elderly In Taiwan," Journal of the Eastern Asia Society for Transportation Studies, Vol. 6, 2005, pp. 1818 – 1832.
9. M. Ben-Akiva , "Discrete Choice Analysis,"2010.
10. K. Train and M. C Fadden, "The Goods/Leisure Trade Off And Disaggregate Work Trip Mode Choice Models" Transportation Research, Vol. 12.1978.

25.	**Authors:**	**A.Mohan, V.Uday Kumar, B.Sateesh**

	Paper Title:	**Reinforcement-Clustering Technique based on POPTVR FNN for Pattern Classification**	
	Abstract: In general, a Fuzzy Neural Network (FNN) is characterized by its learning algorithm and its linguistic knowledge representation. However, it does not necessarily interact with its environment when the training data is assumed to be an accurate description of the environment under consideration. In interactive problems, it would be more appropriate for an agent to learn from its own experience through interactions with the environment, i.e. reinforcement learning. In this work, three clustering algorithms are developed based on the reinforcement learning paradigm. This allows a more accurate description of the clusters as the clustering process is influenced by the reinforcement signal, They are the Reinforce Clustering Technique I (RCT-I), the Reinforce Clustering Technique II (RCT-II), and the Episodic Reinforce Clustering Technique (ERCT).we have implemented, the integrations of the RCT-I, the RCT-II, and the ERCT within the pseudo-outer product truth value restriction (POPTVR), which is a Fuzzy neural network integrated with the truth restriction value (TVR) inference scheme in its five layered feed forward neural network. The three reinforcement-based clustering techniques applied to the POPTVR network are able to exhibit the trial-and-error search characteristic that yields higher qualitative performance. **Keywords:** Clustering, Fuzzy Neural Networks **References:** 1. Wong WC, ChoSY, QuekC. "POPTVR fuzzy neural network for pattern classification". IEEE Trans Neural Netw. 2009 Nov;20(11):1740-55. doi: 10.1109/TNN.2009.2029857. Epub 2009 Sep 18. 2. C. Quek and R. W. Zhou, "The POP learning algorithms: Reducing work in identifying fuzzy rules," Neural Network., vol. 14, no. 10, pp. 1431–1445, 2001. 3. R. W. Zhou and C. Quek, "POPFNN: A pseudo outer-product based fuzzy neural network," Neural Netw., vol. 9, no. 9, pp. 1569–1581, 1996. 4. G. K. Venayagamoorthy, R. G. Harley, and D. C. Wunsch, "Comparison of heuristic dynamic programming and dual heuristic programming adaptive critics for neurocontrol of a turbo generator," IEEE Trans. Neural Netw., vol. 13, no. 3, pp. 764–773, May 2002.	**114-118**
26.	**Authors:**	**K.Harika, K.V.Ramana Reddy**	
	Paper Title:	**Design and Implementation of Arithmetic Coder Used in SPIHT**	
	Abstract: In this paper Set Partitioning in Hierarchical Trees (SPIHT) algorithm for image compression is proposed with a arithmetic coder thereby it compresses the Discrete Wavelet Transform decomposed images. This architecture is advantageous from various optimizations performed at different levels of arithmetic coding from higher algorithm abstraction to lower circuit implementation. SPIHT has straightforward coding procedure and requires no tables which make a SPIHT algorithm an appropriate one for low cost hardware implementation. In order to avoid rescanning the wavelet transformed coefficients a breadth first search SPIHT without lists is used instead of SPIHT with lists. With the help of Breadth First search high speed architecture is achieved. Dedicated circuit such as common bit detector is used for loop unrolling the renormalization stage of arithmetic coding. Critical path in the architecture are shortened by employing Floating point multiplier and carry look ahead adder. Design has been implemented on Spartan 6 FPGA. **Keywords:** Arithmetic coding, Common bit detection (CBD) circuit, Discrete wavelet transform (DWT), Set Partitioning in Hierarchical Trees (SPIHT). **References:** 1. C. Chrysafis & A. Ortega, "Line based, reduced memory, wavelet image compression",IEEE Trans. Image Process., Vol 9, No. 3, Sep.2000,pp.378–389. 2. Kai liu,Eygeniy,Belyaey and Jie Guo,"VLSI architecture of arithmetic coder used in SPIHT",IEEE transactions on VLSI Systems, Vol 20,No.4,April 2012. 3. Rehna.V.J , Shubhangi.S & Vasanthi.S,"Improving the performance of 4. Wavelet based image compression using spiht algorithm", IRNet Transactions on E and E Engineering (ITEEE) Vol 1,Iss 2,2012. V. G. Oklobdzija, "An algorithmic and novel design of a leading zero detector circuit: Comparison with logic synthesis," IEEE Trans on VLSI systems, Vol. 2, No. 1, Mar. 1994, pp. 124–128. 5. I.C.Witten, R. M. Neal, and J. G. Cleary, "Arithmetic coding for data compression," Commun. ACM, vol. 30, no. 6, Jun. 1987, pp.520-540. 6. Usha Bhanu.N and Dr.A.Chilambuchelvan,"A Detailed Survey on VLSI Architectures for Lifting based DWT for efficient hardware Implementation, VLSICS, Vol.3, No.2, April 2012. 7. K.SivaNagiReddy, V.Sidda Reddy, Dr.B.R.Vikram," Efficient Memory and Low Complexity Image Compression Using DWT with Modified SPIHT Encoder", International Journal of Scientific & Engineering Research, Vol 3, Issue 8, 2012. 8. Bibhuprasad Mohanty, Abhishek Singh & Sudipta Mahapatra,"A high performance modified SPIHT for scalable image compression", International of Image processing (IJIP), Vol.5, 2011. 9. D. Taubman, "High performance scalable image compression with EBCOT", IEEE Trans. Image Process. Vol. 9, No. 7, July 2000, pp. 1158–1170. 10. F.W.Wheeler and W.A.Pearlman,"SPIHT image compression without lists",Proceedings of IEEE International Conference on Acoustics, Speech and signal processing, ICASSP,Vol-4,June 2000,pp.2047-2050	**119-124**
27.	**Authors:**	**Vidhi Dubey, Rahul Dubey**	
	Paper Title:	**A new Set Partitioning in Hierarchical (SPIHT) Algorithm and Analysis with Wavelet Filters**	
	Abstract: Spiht-Set Partitioning in Hierarchical Trees algorithm is widely used as a compression and encoding algorithm for satellite image compression and transmission. Though it provides efficient lossless compression with high PSNR the associated complexity of algorithm is very high which makes it unfeasible for many practical hardware implementations. Based on the SPIHT algorithms, we define two modifications to develop a simpler image coding method. The first concept is obtained from the relationship between the bit-planes and the target bit- rate. The second concept is obtained by applying different wavelet filters. Based on the above mentioned concepts, we can discard the refinement pass and improve the image quality at different target bit-rates. The project implements image	**125-128**

codec's based on both the algorithms and compares their performance on the basis of PSNR values. The images used are square grayscale images. The programming is done in java platform

Keywords: wavelet filter, compression, encoding, PSNR

References:

1. Zhu, J., and Lawson, S., 2001, "Improvements to SPIHT for Lossy Image Coding," IEEE International Conference on Electronics, Circuits and Systems, Vol. 3, pp. 1363-1366
2. Weng, S. J., and Areekul, V., 2003, "Adaptive Directional Zero-Tree Image Coding," Proceedings of IEEE International Symposium on Circuits and Systems, Bangkok, Thailand, Vol. 2, pp. 424-427.
3. Sun, Y., Zhang, H., and Hu, G., 2002, "Real-Time Implementation of a New Low-Memory SPIHT Image Coding Algorithm Using DSP Chip," IEEE Trans-actions on Image Processing, Vol. 11, No. 9, pp.1112-1116..
4. Pearlman, A. W., Islam, A., Nagaraj, N., and Said, A., 2004, "Efficient, Low-Complexity Image Coding with a Set-Partitioning Embedded Block Coder," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 14, No. 11, pp. 1219-1235.
5. Zhu, J., and Lawson, S., 2001, "Improvements to SPIHT for Lossy Image Coding," IEEE International Conference on Electronics, Circuits and Systems, Vol. 3, pp. 1363-1366.

28.

Authors: **Kshitiz Agarwal**

Paper Title: **A Paper on System Stability (First Order and Second Order) Using PID Controller**

Abstract: PID Controller is used for tuning of three constants (P,I&D).It stabilize the system by reducing oscillations and settling time. In the proposed method, new tuning rules based on the exact satisfaction of gain and phase margin specifications using proportional-integral (PI) and proportional-integral-differential (PID) type controllers are used for unstable first-order plus dead-time (UFOPDT) processes. The tuning rules are given in the form of iterative algorithms, as well as in the form of accurate, analytical approximations. Moreover, several specific functions, related to the crossover frequencies of the Nyquist plot and to the feasible design specifications for a given process, are derived. These functions, which are particularly useful for the general design of PI and PID-type controllers for UFOPDT processes are accurately approximated, in order to simplify the tuning procedure. With the proposed approximations, the tuning rules require relatively small computational effort and are particularly useful for online applications.

Keywords: Differential, Proportional, Integral, Delay, First and Second Order System.

References:

1. Chyi Hwang, Jyh-Haur Hwang, "On Stabilization of First-Order Plus Dead-Time Unstable Processes Using PID Controllers," Control Theory and Applications, IEE Proceedings Volume: 151 pp. 89 - 94, 2004.
2. Majhi, S. and Atherton, "Online tuning of controllers for an unstable FOPDT process". IEE Proc. Control Theory Appl., 147(4), pp 321-326.2004.
3. K.G.Arvanitis, G.D.Pasgianos, G. Kalogeropoulos, Tuning PID Controllers for a Class of Unstable Dead Time Processes based on Stability Margins Specifications. Mediterranean conference, pp.337-342, 2007.
4. M. Shamsuzzoha and Moonyong Lee. "Design of Advanced PID Controller for Enhanced Disturbance Rejection of Second-Order Processes with Time Delay". Proceedings of the 8th International IFAC Symposium on Dynamics and Control of Process Systems, pp. 397-402, Cancun, Mexico, April 15, 2008.
5. Qing-Guo Wang , Han-Qin Zhou, Yu Zhang and Yong Zhang, A Comparative Study on Control of Unstable Processes with Time Delay, GE Globe Research (Shanghai), 2009.
6. G.D. Pasgianos, K.G. Arvanitis, A.K. Boglou, "PID-Like Controller Tuning for Second-Order Unstable Dead-Time Processes, Chemical Engineering Communications", Vol.162, pp. 63-74. 2010.
7. K.G.Arvanitis, A.G.Soldatos, A.K.Boglou, N.K.Bekiaris-Liberis, "New Simple Controller Tuning Rules for Integrating and Stable or Unstable First Order plus Dead Time Processes", Proceedings of the 13th WSEAS International Conference. pp. 183 192. 2011.
8. Vineet Shekher, Dr. Pankaj Rai, Dr. Om Prakash.,"Design and Evaluation of Classic PID, Gain and Phase Margin Based Controller and Intelligent Controller Design for a Ceramic Infrared Heater". ARPN Journal of Science and Technology. VOL. 3, April 2012.

129-132

29.

Authors: **Anita Khosla, Leena G. M. K. Soni**

Paper Title: **Comparison of ABC and Ant Colony Algorithm Based Fuzzy Controller for an Inverted Pendulum**

Abstract: Fuzzy logic is a practical, robust, economical and intelligent alternative for controller design of complex systems. Choosing appropriate fuzzy rules is essential for a fuzzy logic controller to perform at the desired level. Various evolutionary algorithms are used to find an optimal set of fuzzy rules in the literature. In this paper, an artificial bee's colony (ABC) optimization algorithm and Ant colony algorithm are used to optimize the fuzzy membership functions to control the deviation in pendulum angle and velocity. The proposed control techniques are implemented in MATLAB/Simulink platform and the control performances are evaluated. With the ABC based fuzzy, the inverted pendulum is remaining in the steady position with less error.

Keywords: Inverted pendulum, angle, velocity, integrated control, ABC algorithm, fuzzy controller, Ant colony algorithm.

References:

1. K.J. AsstroKm and K. Furuta, "Swinging up a pendulum by energy control", Automatica, Vol. 36, pp.287- 295, 2000.
2. Mohammed El Hawway,A. L. Elshafei, H. M. Emara, H. A.Abdel Fattah, 'Adaptive fuzzy 1144, Nov 2006
3. S. K. Oh, W. Pendryez, S. B. Rho, T. C. Ahn, Parameter estimation of Fuzzy Controller and its application to inverted pendulum, Engineering Application of Artificial Intelligence, vol.17, no.1, pp 37-60,2004.
4. Yasar Bercerikli, B. Koray Celik, Fuzzy control of inverted pendulum and concept of Stability using Java application, Journal of Mathematical and Computer modeling 46,pp24-37, 2007.
5. J. Yi, N. Yubazaki, 'Stabilization fuzzy control of inverted pendulum system, Artificial Intelligence in Engineering, 14(2), pp.153-163, 2000.
6. Tao, C.W., Taur, J.S. ; Tzuen Wuu Hsieh ; Tsai, C.L.. Design of a Fuzzy Controller With Fuzzy Swing-Up and Parallel Distributed Pole Assignment Schemes for an Inverted Pendulum and Cart System, IEEE Transactions on Control Systems Technology, Vol. 16 , Issue: 6,

133-139

pp. 1277 – 1288,Nov 2008.
7. Yeong-Hwa Chang, Chia-Wen Chang ; Jin-Shiuh Taur ; Chin-Wang Tao , Fuzzy Swing-Up and Fuzzy Sliding-Mode Balance Control for a Planetary-Gear-Type Inverted Pendulum, IEEE Transactions on Industrial Electronics,vol.56,9, pp.3751-3761, 2009
8. Cheng-Hao Huang,Wen-June Wang ; Chih-Hui Chiu ,Design and Implementation of Fuzzy Control on a Two-Wheel Inverted Pendulum, IEEE Transactions on Industrial Electronics,vol.58,7,pp.2988-3001, 2011
9. Munoz-Salinas, R.; Aguirre, E.; Cordon, O.; Garcia-Silvente, M., "Automatic Tuning of a Fuzzy Visual System Using Evolutionary Algorithms: Single-Objective Versus Multiobjective Approaches," Fuzzy Systems, IEEE Transactions on , vol.16, no.2, pp.485,501, April 2008
10. Yuehui Chen; Bo Yang; Abraham, A.; Lizhi Peng, "Automatic Design of Hierarchical Takagi–Sugeno Type Fuzzy Systems Using Evolutionary Algorithms," Fuzzy Systems, IEEE Transactions on , vol.15, no.3, pp.385,397, June 2007
11. Casillas, J.; Cordon, O.; Del Jesus, M.J.; Herrera, F., "Genetic tuning of fuzzy rule deep structures preserving interpretability and its interaction with fuzzy rule set reduction," Fuzzy Systems, IEEE Transactions on , vol.13, no.1, pp.13,29, Feb. 2005
12. Shubhobrata Rudra and Ranjit Kumar Barai, "Robust Adaptive Backstepping Control of Inverted Pendulum on Cart System", International Journal of Control and Automation, Vol. 5, No. 1, March 2012.
13. Dervis Karaboga and Bahriye Basturk, "Artificial Bee Colony (ABC) Optimization Algorithm for Solving Constrained Optimization Problems", Foundations of Fuzzy Logic and Soft Computing, pp.789-798, 2007
14. Bill Messner, Dawn Tilbury, Rick Hill, J D Taylor, Control Tutorials for MATLAB and Simulink. Mathworks Corp.,2012.
15. Lee, C.C., "Fuzzy logic in control systems: fuzzy logic controller. II", IEEE Transactions on Systems, Man and Cybernetics, Vol.20, No.2, pp.419-435, 1990.
16. M. Dorigo, V. Maniezzo, and A. Colorni, "Ant system: optimization by a colony ofcoorperating agents," IEEE Transactions on SMC, vol.26, no.1, pp.29-41, 1996.
17. J. Y. Zhang, A. Lei, J. T. Jia, and L. Gao, "Improvement of the ant colony algorithm for solving TSP problems," Journal of Xidian University, vol.32, no.5, pp.681-685, 2005.
18. E. G. Talbi, 0. Roux, C. Fonlupt, and D. Robillard, "Parallel ant colonies for the quadratic assignment problem," Future Generation Computer Systems, vol.17, no.4, pp.441-449, 2001.

30.

Authors: M.F. Basar, M. Musa, M.Y. Faizal, N.H.A. Razik

Paper Title: Alternative Way in Reducing Car Cabin Temperature Using Portable Car Cooling System (Car-Cool)

Abstract: Until now, car owners especially in ASEAN countries are facing problems where the temperature is too hot in the car when they park their cars under the scorching sun. Various problems will arise caused by this situation. In this paper, the design and development of portable car cooling system is described briefly. Electrical Motor, rechargeable battery, Peltier cell, rotating cloth; these are the components that have been combined in order to complete a simple cooling system. Based on the experimental activities' result, it is proven that the conducted research has a positive impact where it has successfully maintain the temperature inside the car at room temperature. For comparison, the temperature inside the car can achieve up to 70°C without the proposed system. Furthermore, the simple proposed system provides comfort to users due to its capability in improving the quality of air and moisture in the car's cabin.

Keywords: About four key words or phrases in alphabetical order, separated by commas.

References:

1. R. Saidur, H.H. Masjuki, M. Hasanuzzaman. (2009). Performance of an Improved Solar Car Ventilator. International Journal of Mechanical and Materials Engineering (IJMME), Vol. 4, No. 1, pp 24-34, 2009
2. M.A. Jasni and F.M. Nasir. (2012). Experimental Comparison Study of the Passive Methods in Reducing Car Cabin Interior Temperature. Proceedings of the International Conference on Mechanical, Automobile and Robotics Engineering (ICMAR'2012), pp. 229-233, December 14-15, Penang, Malaysia.
3. M.H. Salah, T. H. Mitchell, J.R. Wagner and D.M. Dawson. (2009). A Smart Multiple-Loop Automative Cooling System – Model, Control and Experimental Study. IEEE/ASME Transactions on Mechatronics, Vol. 15, Issue 1, pp. 117-124.
4. A. Mezrhab, M. Bouzidi (2004). Computation of Thermal Comfort Inside a Passenger Car Compartment. Applied Thermal Engineering, 26 (14-15), 1697-1704.
5. N. Hasim, M.F Basar, M.S.M. Aras,"Design and Development of Water Bath Control System: A Virtual Laboratory Experiment," 2011 IEEE Student Conference on Research and Development (SCOReD), pp. 403-408, ISBN: 978-1-4673-0099-5, Cyberjaya, Malaysia, 19-20 December 2011.
6. N.A.G. Martinho, M.C.G. Silva, J.A.E Ramos. (2004). Evaluation of Thermal Comfort in a Vehicle Cabin. Proceedings of the I MECH E Part D, Journal of Automoblie Engineering, 218 (2), 159-166.
7. H.H. Al-Kayiem, M.F. Sidik, Y.R. Munusamy (2010). Study on the Thermal Accumulation and distributin inside a Parked Car Bin, American Journal of Applied Science, 7(6):784-789
8. Kaynakli, O., Unver, U., Kilic, M. (2002). Simulation of thermal comfort heating and cooling periods in an automobile compartment. Proceedings of the Automotive Technologies Congress, pp. 127-135, 24-26 June, Bursa, Turkey.
9. M. F. Basar, A. Ahmad, N. Hasim and K. Sopian, "Introduction to the Pico Hydropower and the status of implementation in Malaysia," IEEE Student Conference on Research and Development (SCOReD), pp. 283-288, ISBN: 978-1-4673-0099-5, Cyberjaya, Malaysia, 19-20 December 2011.
10. M.B.Farriz, A.N. Azmi. N.A.M. Said, A. Ahmad, "A Study on the Wind as a Potential of Renewable Energy Sources in Malaysia," 2010 International Conference on Electrical Engineering/Electronics Computer Telecommunications and Information Technology (ECTI-CON), pp. 651-655, ISBN: 978-1-4244-5607-9, Chiang Mai, Thailand, 19-21 May 2010.
11. M.B.Farriz, J.M. Herman, A. Jidin, A.M. Zulkurnain, "A New Source of Renewable Energy from Lightning Return Stroke : A Small Scale System," 2010 International Power Electronics Conference (IPEC), pp. 1490-1493, ISBN: 978-1-4244-5394-8, Sapporo, Japan, 21-24 June 2010.
12. M.F Basar, A. Rahman,"Design and Development of Green Electricity Generation System Using Ocean Surface Wave," PEA-AIT International Conference on Energy and Sustainable Development Issues and Strategies (ESD 2010), pp. 2-4, ISBN: 978-1-4244-8563-5, Chiang Mai, Thailand, 02-04 June 2010.
13. M.Shahrieel M. Aras, H.A. Kasdirin, M. Herman Jamaluddin, "Design and Development of an Autonomous Underwater Vehicle (AUV - FKEUTeM)," 2009 Malaysian Technical Universities Conference on Engineering and Technology (MUCEET), Kuantan, Malaysia, 02-04 June 2009.

31.

Authors: O.P.Vinocha, Ajay Kumar

Paper Title: A Class of Triple Error Correcting Bch Likes Codes

Abstract: In a recent paper, Bracken and Helleseth [2009] showed that one can construct triple-error-correcting codes using zero set consisting different zero set than the BCH codes. In this correspondence we present some new

	triple error correcting code having zeros $\{\mathbf{1}, \mathbf{2^{2k}+1}, \mathbf{2^{4k}+1}\}$ and $\{\mathbf{1}, \mathbf{2^{2k}+1}, \mathbf{2^{6k}+1}\}$ where gcd (2k, n) =1 and n be odd. **Keywords:** Triple error, Parity Check matrix & minimum distance. **References:** 1. R.Bose and D.Ray-Chaudari: "On a class of error correcting binary group codes"Info.and Control, vol.3, pp-68-79-, 1960. 2. Carl Bracken and Tor Helleseth " Triple error correcting BCH like code" In proceedings of 2009IEEE International conference on symposium o international Theory - volume 3,ISIT'09,pages 1723-1725,Piscataway,NJ,USA,2009.IEEE Press. 3. A.chang, S.W.Golomb, T.Helleseth and P.V.Kumar "On a conjectured ideal autocorrelation sequence and a related triple-error correcting cyclic code"IEEE Trans. Inform.Thoery vol.46, pp.680-687, 2000. 4. T. Kasami "The weight enumerators for several classes of sub codes of the second order binary Reed Muller codes "Info.Contr, vol.18, pp.369-394, 1971. 5. F.J. McWilliams and N.J.A.Sloane,"The Theory of Error- Correcting Codes" North Holland Amsterdam, pp288, 1977. 6. A.W. Bluher "Onx^(q+1)+ax+b=0" .Finite fields and Applications, vol.10 (3), pp-285-305, 2004. 7. C. Bracken ,E .Byrne, N.Markin and G.Mc Guire " Determining the Non-linearity of a New Family of APN Functions" Proceedings of AAECC-17, Lecture Notes in Computer Science,vol4851,pp-72-79 , 2007.	
32.	**Authors:**	**Johevajile Mazima, Michael Kisangiri, Dina Machuve**
	Paper Title:	**Design of ECG Sensor Interface for Biosignal Extraction**
	Abstract: The main objective of this paper is to propose the design of a sensor interface for gathering biosignal. This signal is acquired from the patient's body by the ECG sensor. The interface includes the instrumentation amplifier, bandpass filter, notch filter and the gain amplifier for improving the weak signal captured from the human body. The interface designed is intended to be used in supporting remote monitoring devices for the patients living in areas with limited access to medical assistance or scarce clinical resources especially in rural areas. The patient monitoring systems are expected to use the GSM/GPRS network directly through GSM/GPRS modem instead of using additional devices like Personal Digital Assistant (PDA). Since, the network is currently available in remote area for access. The design is helpful to improve people's quality of life, as well as to allow an improvement in the government attendance indices. **Keywords:** Band Pass Filter, Biosignal, Electrocardiography, ECG Sensor, Notch Filter **References:** 1. NeuroSky, "BrainWaveSignal(EEG)of NeuroSky," 15 December, 2009. 2. S. Carmel and A. J. Macy, "Physiological signal processing laboratory for biomedical engineering education," in Engineering in Medicine and Biology Society, 2005. IEEE-EMBS 2005. 27th Annual International Conference of the, 2006, pp. 859-862. 3. P. Kligfield, et al., "Recommendations for the Standardization and Interpretation of the Electrocardiogram," Journal of the American College of Cardiology, vol. 49,2007, pp. 1109-1127. 4. J. T. Tikkanen, et al., "Long-term outcome associated with early repolarization on electrocardiography," New England Journal of Medicine, vol. 361,2009, pp. 2529-2537. 5. G. Wagner, Marriot´s practical electrocardiography 10 Ed: Wolters Kluwer Health, 2001. 6. B. Surawicz and T. Knilans, Chou's electrocardiography in clinical practice: adult and pediatric: Saunders, 2008. 7. C.-T. Lin, et al., "An intelligent telecardiology system using a wearable and wireless ECG to detect atrial fibrillation," Information Technology in Biomedicine, IEEE Transactions on, vol. 14,2010, pp. 726-733. 8. M. Joshi,S Patel and Dr. L Hmurcik, "Improvements in Electrocardiography Smoothening and Amplification." University of Bridgeport,2008 9. K. Joshi, "Early Myocardial Infarction Detection," San Jose State University, 2009. 10. D. Parekh, "Designing Heart Rate, Blood Pressure and Body Temperature Sensors for Mobile On-Call System," 2010. 11. Y. Sun,K L Chan and S M Krishnan.., "ECG signal conditioning by morphological filtering," Computers in biology and medicine, vol. 32,2002, pp. 465-479. 12. C. Park, et al., "An ultra-wearable, wireless, low power ECG monitoring system," in Biomedical Circuits and Systems Conference, 2006. BioCAS 2006. IEEE, 2006, pp. 241-244. 13. M. J. Lee, "Signal Conditioning Circuit Design," M. S. University, Ed., ed: Capstone Design Team 5, November 2011. 14. M. Ekström, "Small wireless ECG with Bluetooth™ communication to a PDA," Mälardalen University, Thesis,(Msc), 2006. 15. N. R. Reza Fazel-Rezai, Ahmed Rabbi, and D. L. a. W. Ahmad, "Biomedical Signal Transceivers," U. O. N. Dakota and USA, Eds., ed: InTech, August, 2011, pp. 486. 16. T. Jian-jun, "A High Performance and Low-cost Instrumental Amplifier Based on LM324 [J]," Telecommunication Engineering, vol. 3,2004, pp. 038. 17. K. L. McLaughlin, "BIMOS logic gate," ed: Google Patents, 1987. 18. P. Galy, et al., "BIMOS transistor and its applications in ESD protection in advanced CMOS technology," in IC Design & Technology (ICICDT), 2012 IEEE International Conference on, 2012, pp. 1-4. 19. M. Tsai, "Bipolar junction transistor," ed: Google Patents, 2008. 20. S.-h. Fan, et al., "BIPOLAR JUNCTION TRANSISTOR," ed: US Patent 20,120,319,243, 2012. 21. M. Shojaei-Baghini, et al., "A low-power and compact analog CMOS processing chip for portable ECG recorders," in Asian Solid-State Circuits Conference, 2005, pp. 473-476. 22. R. Fazel-Rezai, et al., "Biomedical Signal Transceivers." 23. C.-M. Chang, et al., "Voltage-mode notch, lowpass and bandpass filter using current-feedback amplifiers," Electronics Letters, vol. 30,1994, pp. 2022-2023. 24. H. W. Bode, Network analysis and feedback amplifier design: Van Nostrand Reinhold, 1956. 25. E. M. Spinelli, et al., "AC-coupled front-end for biopotential measurements," Biomedical Engineering, IEEE Transactions on, vol. 50,2003, pp. 391-395.	**146-148**
33.	**Authors:**	**Priyank Rajvanshi, Varun Singh Nagar, Priyanka Chawla**
	Paper Title:	**Data Protection in Cloud Computing**
	Abstract: We are in the middle of an insurgency in cloud computing. In short, cloud computing is "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or services provider interaction."	**149-155**

Current cloud computing systems pose serious limitation to protecting users' data confidentiality. Since users' sensitive data is presented in unencrypted forms to remote machines owned and operated by third party service providers, the risks of unauthorized disclosure of the users' sensitive data by service providers may be high. Many techniques for protecting users' data from outside attackers are available, but currently there exists no effective way for protecting users' sensitive data from service providers in cloud computing.
Our approach is protecting the confidentiality of users' data from service providers, and ensures that service providers cannot access or disclose users' confidential data being processed and stored in cloud computing systems. Our approach has three major aspects:
1) Separating software service providers and infrastructure service providers in cloud computing,
2) Hiding information of the owners of data, and
3) Data obfuscation.
An example to show how our approach can protect the confidentiality of users' data from service providers in cloud computing is given and various types of attacks in cloud computing. Service providers neither can see user's confidential data, nor can modify it. That's approach is presented in our paper.

Keywords: Data confidentiality, Cloud computing system architecture, Data obfuscation, Data de-obfuscation.

References:

1. Horrigan J. Use of cloud computing applications and services. Pew Internet and American LifeProject Memo. 2008.
2. Heiser J, Nicolett M. Assessing the security risks of cloud computing. Gartner Report, 2009, http://www.gartner.com/DisplayDocument?id=685308.
3. DoD Trusted Computer System Evaluation Criteria, http://csrc.nist.gov/publications/history/dod85.pdf
4. Iwaihara M, Murakami K, Ahn GJ, et al. Risk evaluation for personal identity managementbased on privacy attribute ontology. Proc. 27th Int'l Conf. Conceptual Modeling (ER 2008). 2008. 183-198.
5. Mateas M, Michael N. A Box, Darkly: Obfuscation, Weird Languages, and Code Aesthetics.Proc. 6th Digital Arts and Culture Conference. 2005. 144-153.
6. Ertaul L, Venkatesh S. Novel obfuscation algorithms for software security. Proc. Int'l Conf. on Software Engineering Research and Practice. 2005. 209-215.
7. Yau SS, Zhu L, Huang D, Gong H. An approach to automated agent deployment in service-based systems. Proc. 10th IEEE Int'l Symposium on Object and Component-Oriented Real-Time Distributed Computing (ISORC). 2007. 257-264.
8. Mateas M, Michael N. A Box, Darkly: Obfuscation, Weird Languages, and Code Aesthetics. Proc. 6th Digital Arts and Culture Conference. 2005. 144-153.
9. Ertaul L, Venkatesh S. Novel obfuscation algorithms for software security. Proc. Int'l Conf. on Software Engineering Research and Practice. 2005. 209-215.
10. Dong W, Yu H. Web service testing method based on fault-coverage. Proc. 10th IEEE Int'l Enterprise Distributed Object Computing Conference Workshops. 2006. 43-49.
11. Mowbray M, Pearson S, A client-based privacy manager for cloud computing. Proc. Conf.Communication System Software and Middleware. 2009. 138-145.
12. Yau SS, Yin Y. A privacy preserving repository for data integration across data sharing services.IEEE Trans. Services Computing, 2008, 1(3): 130-140.
13. Ritika Agarwal , Ishita Agarwal, Analysis of Cloud Computing Security.
14. Yau SS, An HG. Protection of users' data confidentiality in cloud computing. Proc. 2nd Asia-Pacific Symposium on Internetware. 2010. 32-37.
15. Dong W, Yu H. Web service testing method based on fault-coverage. Proc. 10th IEEE Int'l Enterprise Distributed Object Computing Conference Workshops. 2006. 43-49.
16. Gibson J. Developing A requirements specification for a web service application. Proc. 12thIEEE Int'l Conf. Requirements Engineering. 2004. 340-344.
17. Kona S, Bansal A, Gupta G, et al. Web service discovery and composition using USDL. Proc.3rd IEEE Int'l Conf. E-Commerce Technology. 2006. 65-69.
18. Cloud Security Alliance. Cloud Computing Architectural Framework. January 2011.
19. Damodaram A, Jayasri H. Authenticatio without identification using anonymous credential system. Int'l Jour. Computer Science and Information Security (IJCSIS), 2009, 3(1): 34-37.

34.

Authors:	**Nagraj S. Patil, I. T. Shirkol, S. G. Joshi**
Paper Title:	**Geospatial Technology for Mapping Suitable Sites for Hydro Power Plant**

Abstract: Hydropower is one possible method of generating electric power close to potential consumers. The accessibility of the possible sites which are mostly located in rural and mountainous areas, large amount of data is required, consumes huge amount of money and time. Since small hydropower schemes, used to produce electrical energy which is benefited for nearby small towns, villages or small industries. Expensive ground investigations must be carefully targeted to the areas which are most likely to yield useful sites for hydropower development.
In order to cope with these problems, the present study proposes the use of Geospatial Technology & Soil Water Analysis Tool (SWAT) hydrological model to select the feasible sites of small hydropower projects.
The study using the above methodology to identifies suitable site in Bennihalla catchment, for small scale hydropower development. The hydrological factors yield a map representing an overall feasible potential site for small hydropower development. In the present study sub catchment 1 and outlet of the catchment are more suitable for small scale hydropower plant.

Keywords: Micro/ Mini hydropower plant, Geospatial Technology, SWAT Hydrological Model, etc.

References:

1. Arnold, J. G., Srinivasan, R., Muttiah, R. S., and Williams, J. R. (1998). "Large Area Hydrologic Modelling and Assessment Part I: Model Development." Journal of the American Water Resources Association, 34(1), 73-89.
2. Arnold, J. G. and Allen, P. M. (1996). "Estimating Hydrologic Budgets for Three Illinois Watersheds. Journal of Hydrology, 176(1-4), 57-77.
3. Bingner, R. L., Garbrecht, J., Arnold, J. G., and Srinivasan, R. (1997). "Effect of Watershed Division on Simulation of Runoff and

Sediment Yield." Transactions of the Asae, 40(5), 1329-1335.
4. Cotter, A. S., Chaubey, I., Costello, T. A., Soerens, T. S., and Nelson, M. A. (2003). "Water quality model output uncertainty as affected by spatial resolution of input data." Journal of the American Water Resources Association 39: 977–986.
5. Moriasi, D. N., Arnold, J. G., Van Liew, M. W., Binger, R.L., Harmel, R. D., and Veith, T.L. (2007). "Model evaluation guidelines for systematic quantification of accuracy in watershed simulations." Transactions of the ASABE, 50(3), 885-900.
6. Nash, J. E. and Sutcliffe, J. V. (1970). "River Flow Forecasting through Conceptual Models Part-I, A discussion of Principles." Journal of Hydrology, 10, 282-290.
7. Patil N. S., & Gosain A. K. (2009) "Geospatial Web Portal for Hydrological Information", 4th Indian International Conference on Artificial Intelligence (IICAI-09) 16-18 December 2009, Tumkur, Bangalore India.
8. Peterson, J. R. and Hamlett, J. M. (1998). "Hydrological Calibration of the SWAT Model in a Watershed Containing Fragipan Soils." Journal of the American Water ResourcesAssociation, 34(3), 531-544.
9. Srinivasan, R. and Arnold, J. G. (1994). "Integration of a Basin Scale Water Quality Model with GIS." Water Resources Bulletin, AWRA, 30(3), 453-462.
10. Srinivasan, R., Ramanarayanan, T. S., Arnold, J. G., and Bednarz, S. T. (1997). "Large Area Hydrologic Modelling and Assessment: Part II - Model Application." Journal of theAmerican Water Resources Association, 34(1), 91-102.
11. Singh, S. Chaubey, I. and Gowda, P.H. (2009). "Application of remote sensing based tillage mapping technique to evaluate water quality impacts of tillage management decisions in Upper White River Basin." World Environmental & Water Resources Congress, Environmental and Water Resources Institute, May 17-21, Kansas City, Missouri, pp 4392-4399.
12. Tripathi, M. P., Panda, R. K., and Raghuwanshi, N. S. (2003). "Identification and Prioritisation of Critical Sub-watersheds for Soil Conservation Management using the SWAT Model." Biosystem Engineering, 85(3), 365-379.
13. Van Liew, M. W. and Garbrecht, J. (2003). "Hydrologic simulation of the Little Washita River Experimental Watershed using SWAT." Journal of the American Water Resources Association, 39(2), 413-426.
14. Tripathi, M. P., Panda, R. K., Raghuwanshi, N. S., and Singh, R. (2004). "Hydrological modelling of a small watershed using generated rainfall in the soil and water assessment tool model." Hydrological Processes, 18(10), 1811-1821.
15. Small Hydropower Systems (small hydro, 2001), U.S. Department of Energy (DOE) DOE/GO-102001-1173 FS217 July 2001.
16. Srinivasan M. S., Hamlett J. M., Day R. L., Sams J .I., and Petersen G. W. (1998). "Hydrologic modeling of two glaciated watershed in north east Pennsylvania". Journal of the American Water Resources Association 34, 963–978.
17. Suthar S., Bishnoi P., Singh S., Mutiyar P. K., Nema A. K., and Patil N. S. (2009) "Nitrate contamination in groundwater of some rural areas of Rajasthan, India." Journal of Hazardous Materials. Volume 171, November 2009, Pages 189-199.

35.

Authors: **S.A Kanalli, H.S Satish, R.Satyamurthy**

Paper Title: **Planning Of Integrated Transport System to Namma Metro at Byapanahalli – A Study**

Abstract: Mass Rapid Transit is one of the major Transportation system proposed in metropolitan city like Bangalore in order to be beneficial in reducing various traffic problems and result in reduction of Travel time etc. The efficiency of this system can be increased by attracting more number of Trip makers by a suitable Integrated Transport System. Feeder system is one of these techniques proposed for Namma Metro in Bangalore which includes Feeder bus (Minibus) operating throughout the radial areas of Metro stations. The present study includes the necessity of these buses as par with Public Transport Buses currently operating in these areas with respect to the willingness of commuters, Frequency and Travel Time.

References:
1. Census of India 2001. Series – 30. Karnataka paper 2 of 2001. Provisional population totals, rural-urban distribution of population. Directorate of census operation. Karnataka.
2. Bangalore/Bengaluru Metro Population. World Gazetteer. Retrieved 8 February
3. City traffic police control cell, Bangalore utta. J. Inst. Pub. Hlth. Eng., 3: 1-9^ a b c d "Project Highlights".
4. Reach 1, then Reach 2. Metro all set to reach Bangalore - India - DNA
5. Boyer, Kenneth D., 1997. Principles of Transportation Economics. New York, Addison-Wesley

161-165

36.

Authors: **Saranya Ullas, B.G Sreedevi, Sreelatha T**

Paper Title: **Pavement Performance Modeling – A Case Study**

Abstract: Pavement deterioration is a complex process. It involves not only structural fatigue but also many functional distresses of pavement. It results from the interaction between traffic, climate, material and time. Deterioration is the term used to represent the change in pavement performance overtime. The ability of the road to satisfy the demands of traffic and environment over its design life is referred to as performance. Due to the great complexity of the road deterioration process, performance models are the best approximate predictors of expected conditions.

In this study main distresses were identified from the selected road stretches. Regression models are then developed using SPSS (Statistical packages for social sciences) package. T test is used to check the reliability of the model.

Keywords: Deterioration, Distresses, Performance models, Structural fatigue.

References:
1. Gupta A, K. Praveen, and R.Rajat (2012), " A Critical Review of Flexible Pavement Performance Models Developed for Indian perspective", Indian Highways, Indian Road Congress, New Delhi,40(3) pp.41-60.
2. IRC:81-1997, Guidelines for Strengthening of Flexible Road Pavements Using Benkelman Beam Deflection Technique, Indian Road Congress, New Delhi, 1997.
3. Mathew, B.S., Reshmy, D.S. and Issac, K.P. (2008), "Performance Modelling of Rural Road Pavements Using Artificial Neural Network", Indian Highways, Indian Roads Congress, New Delhi, 36(1), pp.31-39.
4. Muralikrishna P and Veeraragavan.A (2011), " Decision Support System For Performance Based Maintenance Management Of Highway Pavments", Journal of Indian Road Congress, New Delhi, pp.155-167.
5. Reddy ,B.B, Sharma,R.S., and Veeraragavan,A.(2005). "Development of flexible pavement preservation framework for an integrated Asset management.", Journal of Indian Roads Congress, Volume 66-1 , April 2005 , 383-418
6. Reddy,B.B., and Veeraragavan,A. (1998), "Methodology for Sample size Determination in Pavement Performance Data Collection" , Indian Highways, Indian Road Congress, New Delhi, 26(11), pp.15-27.
7. Sreedevi B.G, Salini P. N and Sathish B Nair (2011), "Field performance indicators for NRMB in A tropical setting", Indian Highways, January 2011. pp -47-57.

166-170

	Authors:	**Vinay Sahu, Kamlesh Lahre**
	Paper Title:	**A New Technique for enhance Image Protection Using Digital Watermarking**
37.	**Abstract:** This paper focuses mainly on the image security sharing techniques for safe transmission purpose. This algorithm will be applied to images. We encrypt the secret key with an encryption method based on keys. This work presents a method that combines image watermarking and encryption technique for safe image transmission purpose. In this method we embed the original image with patient information before encryption by using lossless watermarking method then apply encryption algorithm for encryption of embedded image using private key so that both image and patient information is completely encrypted . In this paper, Image Watermarking using Least Significant Bit (LSB) method has been used for embedding the information. In receiver side when the message is arrived then we applied the inverse methods in reverse order to get the lossless original image and patient information comparison to other methods. We have applied and showed the results of our method to medical images. **Keywords:** Decryption, encryption, watermarking, image protection. **References:** 1. C-C Chang, M.S. Hwang, and T-S Chen. "A new encryption algorithm for image cryptosystems". The Journal of Systems and Software, 58:83–91, 2001. 2. W. Puech. "Image Encryption and Compression for Medical Image Security" proceeding of IEEE Image Processing Theory", Tools & Applications, 2008. 3. Ming Yang, Lei Song, Monica Trifas, Dorothy Buenos-Aires, Lei Chen, Jaleesa Elston, "Secure Patient Information and Privacy in Medical Imaging IEEE ". 4. Xinpeng Zhang]ieee signal processing letters, "Reversible Data Hiding in Encrypted Image" vol. 18, no. 4,pp.255,2011 5. M. Naor, and A. Shamir, "Visual Cryptography", Advances in Cryptology – Eurocrypt'94 Proceeding, LNCS vol. 950, pp. 1-12, 1995. 6. W. Puech, M. Chaumont, and 0. Strauss, "A Reversible Data Hiding Method for Encrypted Images". In Proc. SPIE, Electronic Imaging, Security, Forensics, Steganography, and Watermarking of Multimedia Contents X, volume 6819, pages 68191E-1-68191E-9, 2008. 7. M. Naor, and A. Shamir, "Visual Cryptography", Advances in Cryptology – Eurocrypt, 94 Proceeding LNCS Vol. 950, pp. 1-12, 1995. 8. M. Naor and A. Shamir, "Visual Cryptography II: Improving the Contrast via the Cover Base", Cambridge Workshop on Protocols, 1996. 9. Puneet Kr Sharma and Rajni, "Analysis of image watermarking using least significant bit algorithm" International Journal of Information Sciences and Techniques (IJIST), Vol.2 No.4, July 2012.	**171-173**
	Authors:	**Abhishek Dwivedi, Avanish Dwivedi**
	Paper Title:	**Role of Computer and Automation in Design and Manufacturing for Mechanical and Textile Industries: CAD/CAM**
38.	**Abstract:** Luckily, the times when we needed to explain why we need a COMPUTER & CAD are history. Manufacturing industry witnessed not only a tremendous modernisation in technology but also adoption of information technology & computer science in massive scale. Automobile and fashion designing companies face significant challenges to remain competitive in today's industry, including supplying innovative collections at the right price, controlling margins, designing personalized garments, enhancing brand image, building customer loyalty and expanding business horizons. To unleash the creativity of the component designers, Computer Aided Design Technology and Automation is being used more and more in mechanical / textile industry (both in automatic and manual machines like power loom and handloom). Today, with the introduction of CAD and its many software capabilities, the possibilities are endless. These challenges can be faced by combining solutions such as CAD/CAM and 3D technologies with Internet tools to provide optimal solutions for meeting all requirements, from collection design to visual merchandising through production. Automation (CAD/CAM) involves all the processes of conceptualizing, designing, analysing, prototyping and actual manufacturing with Computer's assistance. As Automation can be said as "A process without direct human activity in the process", so this paper goes through the need & necessity of computer (CAD/CAM) in mechanical and textile industry & as a helping tool in both industries. In this paper, the detail information of CAD/CAM and effect of Automation is being presented. The functions, applications & the points above, parameters, necessary for new century are discussed. **Keywords:** CAD, CAM, PRODUCT DESIGN CYCLE, AUTOMATION. **References:** 1. Kuldeep Kumar Sareen, Chandan Deep Singh Grewal, 2007, CAD/CAM Theory and concepts, ISBN: 81-219-2874-5, Publisher- S.Chand & Company Ltd. 2. Mikell P Groover, 1984, CAD/CAM- Computer Aided Design & Manufacturing, ISBN: 9788177584165, Publisher- Pearson Education India. 3. P.K.Bharti, Osama Lari, 2010, Computer Aided Manufacturing, ISBN:978-93-80257-09-9, Publisher- Word-press. 4. P.N.Rao, 2004, CAD/CAM: Principles and Applications, ISBN: 9780070583733, Publisher- Tata McGraw-Hill Education. 5. T.K.Kundra, 1993, Computer Aided Manufacturing, ISBN: 9780074631034, Publisher- Tata McGraw-Hill Education. 6. Vikram Sharma, 2009, Fundamental of CAD/CAM, ISBN: 9788189757946, Publisher- S.K.Kataria & sons. 7. http://www.fibre2fashion.com/industry-article/technology-industry-article/cadcam-technology-offers-no-limit-solution-for-textile-designing-and-manufacturing/cadcam-technology-offers-no-limit-solution-for-textile-designing-and-manufacturing4.asp 8. http://www.slideshare.net/sandeepmittal62/reference-books-of-textile-technologies-weaving-wwwisotextileblogspotcom 9. http://www.scribd.com/doc/22695107/Textile-Reference-Book 10. http://www.indiantextilejournal.com/articles/FAdetails.asp?id=553 11. http://en.wikipedia.org/wiki/Computer-aided_manufacturing	**174-181**