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S. No	Volume-1 Issue-4, October 2012, ISSN: 2277-3878 (Online) Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.		Page No.
1.	Authors:	Pranali Dhabekar, Geeta Salunke	
	Paper Title:	The Exemplar-Based Image Inpainting Algorithm Through Patch Propagation	
	<p>Abstract: This paper presents a novel and efficient exemplar-based inpainting algorithm through investigating the sparsity of natural image patches. Two novel concepts of sparsity at the patch level are proposed for modeling the patch priority and patch representation, which are two crucial steps for patch propagation in the exemplar-based inpainting approach. First, patch structure sparsity is designed to measure the confidence of a patch located at the image structure (e.g., the edge or corner) by the sparseness of its nonzero similarities to the neighboring patches. The patch with larger structure sparsity will be assigned higher priority for further inpainting. Second, it is assumed that the patch to be filled can be represented by the sparse linear combination of candidate patches under the local patch consistency constraint in a framework of sparse representation. Compared with the traditional exemplar-based inpainting approach, structure sparsity enables better discrimination of structure and texture, and the patch sparse representation forces the newly inpainted regions to be sharp and consistent with the surrounding textures.</p> <p>Keywords: Image inpainting, patch propagation, patch sparsity, sparse representation, texture synthesis.</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. Bertalmio, G. Sapiro, V. Caselles, and C. Ballester, "Image inpainting," in Proc. SIGGRAPH, 2000, pp. 417–424. 2. M. Bertalmio, A. L. Bertozzi, and G. Sapiro, "Navier–Stokes, fluid dynamics, and image and video inpainting," in Proc. IEEE Computer Society Conf. Computer Vision and Pattern Recognition, 2001, pp.417–424. 3. T. Chan and J. Shen, "Local inpainting models and tv inpainting," SIAM J. Appl. Math., vol. 62, no. 3, pp. 1019–1043, 2001. 4. T. Chan and J. Shen, "Non-texture inpainting by curvature-driven diffusions," J. Vis. Commun. Image Represent., vol. 4, no. 12, pp. 436–449, 2001. 5. C. Bertalmio, M. Bertalmio, V. Caselles, G. Sapiro, and J. Verdera, "Filling-in by joint interpolation of vector fields and gray levels," IEEE Trans. Image Process., vol. 10, pp. 1200–1211, 2001. 6. Levin, A. Zomet, and Y. Weiss, "Learning how to inpaint from global image statistics," in Proc. Int. Conf. Comp. Vision, pp. 305–313. 7. S. Roth and M. J. Black, "Fields of experts: A framework for learning image priors," in Proc. IEEE Computer Society Conf. Computer Vision and Pattern Recognition, 2005, pp. 860–867. 8. S. Roth and M. J. Black, "Steerable random fields," in Proc. IEEE Computer Society Conf. Computer Vision and Pattern Recognition, 2007, pp. 1–8. 9. Efros and T. Leung, "Texture synthesis by non-parametric sampling," In Proc. Int. Conf. Comp. Vision, 1999, pp. 1033–1038. 10. M. Bertalmio, L. Vese, G. Sapiro, and S. Osher, "Simultaneous structure and texture image inpainting," IEEE Trans. Image Process., vol.12, pp. 882–889, 2003. 11. Criminisi, P. Perez, and K. Toyama, "Object removal by Exemplarbased image inpainting," in Proc. Int. Conf. Comp. Vision, 2003, pp. 721–728. 12. J.Wu and Q. Ruan, "Object removal by cross isophotes exemplar-based image inpainting," in Proc. Int. Conf. Pattern Recognition, 2006, pp.810–813. 13. Wong and J. Orchard, "A nonlocal-means approach to exemplarbased inpainting," presented at the IEEE Int. Conf. Image Processing, 2008. 14. G. T. N. Komodakis, "Image completion using efficient belief Propagation via priority scheduling and dynamic pruning," IEEE Trans. Image Process., vol. 16, pp. 2649–2661, 2007. 15. J. Jia and C. K. Tang, "Image repairing: Robust image synthesis by adaptive nd tensor voting," in Proc. IEEE Computer Society Conf. Computer Vision and Pattern Recognition, 2003, pp. 643–650. 16. Drori, D. Cohen-Or, and H. Yeshurun, "Fragment-based image completion," ACM Trans. Graph., vol. 22, no. 2003, pp 303–312, 2005. 17. M. Elad, J. L. Starck, P. Querre, and D. L. Donoho, "Simultaneous cartoon and texture image inpainting using morphological component analysis," Appl. Comput. Harmon. Anal., vol. 19, pp. 340–358, 2005. 18. O. G. Guleryuz, "Nonlinear approximation based image recovery using adaptive sparse reconstructions," presented at the IEEE Int. Conf. Image Processing, 2003. 19. O. G. Guleryuz, "Nonlinear approximation based image recovery using adaptive sparse reconstructures and iterated denoising-part i: Theory," IEEE Trans. Image Process., vol. 15, pp. 539–554, 2006. 20. O. G. Guleryuz, "Nonlinear approximation based image recovery using adaptive sparse reconstructures and iterated denoising-part ii: Adaptive algorithms," IEEE Trans. Image Process., vol. 15, pp. 555–571, 2006. 21. M. J. Fadili, J. L. Starck, and F. Murtagh, "Inpainting and zooming using sparse representations," The Comput. J., vol. 52, no. 1, pp. 64–79, 2009. 22. Criminisi, P. Perez, and K. Toyama, "Region filling and object removal by exemplar-based image inpainting," IEEE Trans. Image Process., vol. 13, pp. 1200–1212, 2004. 23. Y. P. Li and D. Huttenlocher, "Sparse long-range random field and its application to image denoising," presented at the European Conf. Computer Vision, 2008. 24. M. F. Tappen, B. C. Russell, and W. T. Freeman, "Exploiting the sparse derivative prior for super-resolution and image demosaicing," presented at the IEEE Workshop on Statistical and Computational Theories of Vision, 2003. 25. Sun, J. Sun, Z. B. Xu, and H.-Y. Shum, "Image super-resolution using gradient profile prior," presented at the IEEE Computer Society Conf. Computer Vision and Pattern Recognition, 2008. 26. R. Fergus, B. Singh, A. Hertzmann, S. T. Roweis, and W. T. Freeman, "Removing camera shake from a single photograph," ACM Trans.Graph., vol. 25, no. 3, pp. 787–794, 2006. 27. Levin, R. Fergus, F. Durand, and W. T. Freeman, "Image and depth from a conventional camera and depth from a conventional camera with a coded aperture," ACM Trans. Graph., vol. 26, no. 3, pp. 70:1–70:9,2007. 28. Olshausen and D. Field, "Sparse coding with an overcomplete basis set: A strategy employed by v1?," Vis. Res., vol. 37, no. 33, pp. 3311–3325, 1997. 29. M. Elad and M. Aharon, "Image denoising via sparse and redundant representations over learned dictionaries," IEEE Trans. Image Process., vol. 15, pp. 3736–3745, 2006. 30. Maire, M. Elad, and G. Sapiro, "Sparse representation for color image restoration," IEEE Trans. Image Process., vol. 17, pp. 53–69,2008. 		1-5
2.	Authors:	Sangeeta Jajoria, Sajjan Singh, S. V. A. V. Prasad	
	Paper Title:	Analysis of BER Performance of OFDM System by Adaptive Modulation	
	Abstract: Orthogonal Frequency Division Multiplexing is an emerging broadband multi-carrier modulation		6-9

	<p>scheme. The robust high-bandwidth capabilities of orthogonal frequency division multiplexing confer immediate advantages on wireless products that systems are doing so. OFDM is also being considered for use in 4G cellular systems. A well-known problem of OFDM is its sensitivity to frequency offset between the transmitted and received carrier frequencies. This frequency offset introduces inter-carrier interference in the OFDM symbol. This project investigates adaptive modulation & ICI self-cancellation methods for combating the effects of channel fading & ICI respectively. These methods are compared in terms of bit error rate performance, bandwidth efficiency, and computational complexity. We propose an adaptive modulation method in order to combat channel with deep fading through simulations, it is shown that this technique is effective in mitigating the effects of ICI.</p> <p>Keywords: OFDM, 4G, ICI.</p> <p>References:</p> <ol style="list-style-type: none">1. Louis Frenzel, "OFDM FAQ Tutorial," April 2009.2. Eric phillip, "Adaptive techniques for Multiuser OFDM," LAWREYBE, Dec 2001.3. Yao Xiao, "OFDM Multiplexing Modulation and ICI Cancellation," B.S, Dalian University of Tech, 1998 May 2003.4. "OFDM" J.J.van de Beek, Podling, S.K Wilson, P.O. Borieisson.5. Ravitej Amasa, "Inter carrier Interference Cancellation in OFDM System", National Institute of technology Rourkela, May 2009.6. S.Driz, M.Bouziani and J.M.Rouvaen, "Inter-Carrier Interference Cancellation for OFDM Systems", ACTA ELECTRONTECHNICA, Volume 50, Number 3, 2009.7. Luca Rugini and paolo Banelei, "BER of OFDM system impaired by carrier frequency offset in multipath fading channels," IEEE Transactions on wireless Communication, vol.4, No.5,September 2005.8. J. Armstrong, "Analysis of new and existing methods of reducing intercarrier interference due to carrier frequency offset in OFDM," IEEE Transactions on Communications, vol. 47, no. 3, pp. 365 – 369, March 1999.9. Luca Rugini and paolo Banelei and Greet Leus, "Simple Equalization Time-varying channel for OFDM," IEEE COMMUNICATION LETTERS, vol.9, No.7, July 2005.10. Chin-Liang Wang, Yu-Chih Huang and Po-Chung Shen "An Intercarrier Interference suppression Technique using Time Domain windowing for OFDM System," Institute of Information Industry of the Republic of China and National science Council of republic of China.11. Yen-Hui Yeh and Sau-Gee Chan, "An Efficient Fast Fading Channel Estimation And Equalization Method With Self Ici Cancellation," National Science Council, Taiwan.12. Yao Xiao, "Orthogonal Frequency Division Multiplexing Modulation And Inter-Carrier Interference Ancellation," B.S., Dalian University Of Technology, 1998, M.S., Institute Of Automation, C.A.S, 2001, May 2003.13. S.Weinstein and P.Ebert, "Data transmission by frequency-division multiplexing using the discrete Fourier transform," IEEE Trans. Commun.,vol.19, pp. 628-634, Oct.1971.14. L.J. Cimini, "Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing", IEEE Transactions on Communication no.7 July 1985.15. Russell, M.; Stuber, G.L.; "Interchannel interference analysis of OFDM in a mobile environment", Vehicular Technology Conference, 1995 IEEE 45th, vol. 2, pp. 820 –824, Jul. 1995.16. X.Cai, G.B.Giannakis,"Bounding performance and suppressing intercarrier interference in wireless mobile OFDM", IEEE Transaction on communications, vol.51, pp. 2047-2056, no.12, Dec.2003.17. Y. Fu, S. G. Kang, and C. C. KO, "A new scheme for PAPR reduction in OFDM systems with ICI selfcancellation," in Proc. VTC 2002-Fall, 2002 IEEE 56th Vehicular Technology Conf., vol. 3, pp 1418–1421, Sep. 2002.18. Y.Zhao and S. Häggman, "Intercarrier interference selfcancellation scheme for OFDM mobile communication systems," IEEE Transactions on Communications, vol. 49, no. 7, pp. 1185 – 1191, July 2001.19. J.J. van de Beek, M. Sandell and P.O. Borjesson, "ML estimation of time and frequency offset in OFDM systems", IEEE Trans. Signal Process., 45, pp.1800–1805, July 1997.20. Tiejun (Ronald) Wang, John G. Proakis, and James R. Zeidler "Techniques for suppression of intercarrier interference in ofdm systems". Wireless Communications and Networking Conference, 2005 IEEE Volume 1, Issue, 13-17 pp: 39 - 44 Vol. 1, March 2005.21. William H.Tranter, K.Sam Shanmugam, Theodore S.Rappaport, Kurt L.Kosbar, "Principles of Communication system simulation with wireless application", Pearson Education, 2004.22. P.H. Moose, "A technique for orthogonal frequency division multiplexing frequency offset Correction", IEEE Trans. Commun., 42, pp.2908–2914, October 1994.					
3.	<table><tr><td>Authors:</td><td>Manas Kumar Parai, Gautam Das, Banasree Das</td></tr><tr><td>Paper Title:</td><td>A New Technique of Developing a CPLD Based System for Wireless Device Control through Mobile Phone</td></tr></table> <p>Abstract: Sometimes it is very much essential to control the home appliances and different devices from a far distance. This paper gives an idea of developing a system which will enable user to control from a remote using a mobile phone based interface. Within the large coverage area of the service provider mobile phone is used to control the devices which may be located geographically far apart. CPLD is used here to direct the interfacing circuitry either to switch on or off the devices connected with it. CPLD based system is used due to faster implementation and hardware verification facilities. The device is programmable and reconfigurable. This is one of the most powerful advantages of using the device where the program is to be changed frequently for some specific applications. The functions associated with the assigned keys are stored in the CPLD. It processes the data coming from the output of a DTMF decoder and generates the output according to the key pressed from the mobile phone at the transmitting end. Xilinx 9.2i software is used to write the program in VHDL and the hardware is implemented with the help of VLSI trainer kit (Model: UNI-BSX-M1, Manufacturer: Milman).</p> <p>Keywords: CPLD, DTMF decoder, Mobile phone, TRIAC, VHDL, Zero crossing detector.</p> <p>References:</p> <ol style="list-style-type: none">1. M. K. Parai, D. Misra, B. Das, "CPLD Based Speed Controller of a DC Motor Operated through Cellphone", International Journal of Soft Computing and Engineering (IJSCE), ISSN: 2231-2307, Volume-2, Issue-4, September- 2012.2. C. K. Das, M. Sanaullah, H.M.G. Sarower, M. M. Hasan, "Development of a Cell phone Based Remote Control System: an effective switching system for controlling home and office appliances", International Journal of Electrical & Computer Sciences IJECS, volume: 9, No: 10. Pp. 37-43.3. Mohini Ratna Chaurasia, Nitin Naiyar , "A research of a new Technique of open loop control algorithm for stepper motor using CPLD" , International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, Volume-1, Issue-1, April- 2012	Authors:	Manas Kumar Parai, Gautam Das, Banasree Das	Paper Title:	A New Technique of Developing a CPLD Based System for Wireless Device Control through Mobile Phone	10-13
Authors:	Manas Kumar Parai, Gautam Das, Banasree Das					
Paper Title:	A New Technique of Developing a CPLD Based System for Wireless Device Control through Mobile Phone					

	<div>4. Sarkar A, De S, Sarkar C, VLSI Design and EDA Tools , Scitech publications (India) Pvt. Ltd., Chennai, 1st Edition, 2011.</div> <div>5. Bhasker J., VHDL Primer, Englewood Clit. Nj: Prentice hall, 3rd edition 1999.</div> <div>6. Koskun, H. Ardarn , "A remote controller for home and office application by telephone." , IEEE Trans. Consumer electron., vol. 44. No 4, pp. 1291-1297, November 1998.</div> <div>7. R. Sharma, K. Kumar, S. Viq, "DTMF based remote control system" IEEE International Conference ICIT 2006, pp. 2380-2383, December 2006.</div> <div>8. KT3170 DTMF Decoder datasheet, Available: http://www.datasheetcatalog.org/datasheet/SamsungElectronic/mXuusvq.pdf</div> <div>9. MOC3041, Zero Cross Optoisolators Triac Driver, Available: http://www.datasheetcatalog.org/datasheet/fairchild/MOC3041-M.pdf</div> <div>10. CoolRunnerII CPLDsinCellPhoneHandsets/TerminalsapplicationNote:www.xilinx.com/publications/.../cpld/cpld_applications_handbook, WP198 (v1.1) July 4, 2005.</div>					
	<table><tr><td>Authors:</td><td>B.N. Shobha, N.J.R. Muniraj</td></tr><tr><td>Paper Title:</td><td>Mathematical Modelling and Analysis of Nanobio-Sensors for Automated Disease Detection and Drug Delivery System</td></tr></table>	Authors:	B.N. Shobha, N.J.R. Muniraj	Paper Title:	Mathematical Modelling and Analysis of Nanobio-Sensors for Automated Disease Detection and Drug Delivery System	
Authors:	B.N. Shobha, N.J.R. Muniraj					
Paper Title:	Mathematical Modelling and Analysis of Nanobio-Sensors for Automated Disease Detection and Drug Delivery System					
	<p>Abstract: Nano-medicine is the medical use of molecular-sized particles to deliver drugs, heat, light or other substances to specific cells in the human body. Engineering particles to be used in this way allows detection and/or treatment of diseases or injuries within the targeted cells, thereby minimizing the damage to healthy cells in the body. Nanomedicine, it is the innovative combination of nanotechnology and medicine providing us with the most modern cutting edge tool in the field of medicine. It has triggered a whirlwind of medical revolution across the globe. In this paper, the mathematical models required to describe the functionality of nanodevices have been reviewed and mathematical model sensor equivalent circuits have been developed. An experimental setup is developed to analyze the characteristics of IS Field Effect Transistor (ISFET), nanowire and nanosphere devices. The impact of geometrical properties on device performance is estimated based on the experimental setup. Settling time and surface analyte concentration graphs obtained using the experimental setup is used in designing a nanobio-sensor for disease detection. Based on the test results, a mathematical model has been developed in Matlab to model nanodevices. Three different iterations of sensor models are carried out based on the results obtained; curve fitting techniques are adopted to generalize the developed sensor model using Savitzky-Golay Filter (SG Filter). The sensors modeled can be used for automated drug detection and delivery unit</p> <p>Keywords: Nanobio-sensor, drug delivery, cancer detection, diffusion-capture</p> <p>References:</p> <div>1. Valcke, Christian and Chizeck, Howard Jay. Closed-Loop Drug Infusion for Control of Heart-Rate trajectory in Pharmacological Stress Tests, IEEE Transactions on Biomedical Engineering, 44(3), 187-195 (1997).</div> <div>2. Woodruff, Eileen A.; Martin, James F.; and Omens, Madonna. A Model for the Design and Evaluation of Algorithms for Closed-Loop Cardiovascular Therapy, IEEE Transactions on Biomedical Engineering, 44(8), 694-705 (1997).</div> <div>3. Yu, Clement; Roy, Rob J.; Kaufman, Howard; and Bequette, B. Wayne. Multiple-Model Adaptive Predictive Control for Mean Arterial Pressure and Cardiac Output, IEEE Transactions on Biomedical Engineering, 39(8), 765-778 (1992)</div> <div>4. J. H. Prescott, S. Lipka, S. Baldwin, N. F. Sheppard, J. M. Maloney, J. Coppeta, B. Yomtov, M. A. Staples, and J. T. Santini, "Chronic, programmed polypeptide delivery from an implanted, multireservoir microchip device," Nature Biotechnology, vol. 24, pp. 437-438, 2006.</div> <div>5. N. T. Nguyen, X. Y. Huang, and T. K. Chuan, "MEMS-micropumps: A review," Journal of Fluids Engineering-Transactions of the Asme, vol. 124, pp. 384-392, 2002.</div> <div>6. J. T. Santini, A. C. Richards, R. Scheidt, M. J. Cima, and R. Langer, "Microchips as controlled drug-delivery devices," Angewandte Chemie-International Edition, vol. 39, pp. 2397-2407, 2000.</div> <div>7. C. R. Grayson, I. S. Choi, B. M. Tyler, P. P. Wang, H. Brem, M. J. Cima, and R. Langer, "Multi-pulse drug delivery from a resorbable polymeric microchip device," Nature Materials, vol. 2, pp. 767-772, 2003.</div> <div>8. J. M. Maloney, S. A. Uhland, B. F. Polito, N. F. Sheppard, C. M. Pelta, and J. T. Santini, "Electrothermally activated microchips for implantable drug delivery and biosensing," Journal of Controlled Release, vol. 109, pp. 244-255, 2005.</div> <div>9. C. R. Grayson, M. J. Cima, and R. Langer, "Size and temperature effects on poly(lactic-co-glycolic acid) degradation and microreservoir device performance," Biomaterials, vol. 26, pp. 2137-2145, 2005.</div> <div>10. Balasubramanian, K.; Burghard, M. Biosensors based on carbon nanotubes. Anal. Bioanal. Chem. 2006, 385, 452-468; DOI 10.1007/s00216-006-0314-8; PubMed 16568294.</div> <div>11. Zhang, S.; Wang, N.; Niu, Y.; Sun, C. Immobilization of glucose oxidase on gold nanoparticles modified Au electrode for the construction of biosensor. Sens. Act. B. 2005, 109, 367-374; DOI 10.1016/j.snb.2004.12.066.</div> <div>12. Wang, J.; Musameh, M.; Lin, Y. Solubilization of carbon nanotubes by nafion toward the preparation of amperometric biosensors. J. Am. Chem. Soc. 2003, 125, 2408-2409; DOI 10.1021/ja028951v; PubMed 12603125.</div> <div>13. Collings AF, Caruso F. Biosensors: recent advances. Rep Prog Phys1997;60: 1397-1445.</div> <div>14. Jianrong C, Yuqing M, Nongyue H, Xiaohua W, Sijiao L. Nanotechnology and biosensors. Biotechnol Adv 2004;22: 505-518.</div> <div>15. Ziegler C. Cantilever-based biosensors. Anal Bioanal Chem 2004;379:946-959.</div> <div>16. Andriole GL, Roehrborn C, Schulman C, Slawin KM, Somerville M, Rittmaster RS (September 2004). "Effect of dutasteride on the detection of prostate cancer in men with benign prostatic hyperplasia". Urology 64 (3): 537-41; discussion 542-3. doi:10.1016/j.urology.2004.04.084. PMID 15351586.</div> <div>17. Mongiat-Artus P, Peyromaure M, Richaud P, Droz JP, Rainfray M, Jeandel C, Rebillard X, Moreau JL, Davin JL, Salomon L, Soulié M (December 2009). "[Recommendations for the treatment of prostate cancer in the elderly man: A study by the oncology committee of the French association of urology]" (in French). Prog. Urol. 19 (11): 810-7. doi:10.1016/j.purol.2009.02.008. PMID 19945664.</div>	14-19				
	<table><tr><td>Authors:</td><td>P SasiKiran, M.Sailaja</td></tr><tr><td>Paper Title:</td><td>Automatic Detection of Sinusitis and Analyzing the Severity with Preventive Measures using GUI MATLAB Tools</td></tr></table>	Authors:	P SasiKiran, M.Sailaja	Paper Title:	Automatic Detection of Sinusitis and Analyzing the Severity with Preventive Measures using GUI MATLAB Tools	
Authors:	P SasiKiran, M.Sailaja					
Paper Title:	Automatic Detection of Sinusitis and Analyzing the Severity with Preventive Measures using GUI MATLAB Tools					
5.	<p>Abstract: Sinusitis is treated with medications or surgery for severe cases. Imaging techniques are popular in detecting sinusitis as they are less intrusive. Current imaging techniques used to detect sinusitis are the X-ray, CT scan and MRI scan. Images taken with these imaging techniques have to be interpreted by doctors manually and this gives room for inconsistency or in some cases, inaccuracy. Image segmentation is important as the results of segmentation are used for diagnosis and surgical planning. At present, manual segmentation and semi-automatic segmentations are used. Another approach is the Discrete Curvelet Transform which is a new image representation. This approach is based on the idea of representing a curve as superposition of functions of various length and width obeying the lam: width ~ length², this called the Curvelet Scaling Law. Due to the high ability of the Curvelet transform in representing the edges, modification of Curvelet transform coefficients to enhance the sinusitis image</p>	20-24				

	<p>edges better prepares the image for the segmentation part. The software used for simulations is Image processing tools in MATLAB using GUI. Simulations are performed on images of healthy sinuses and sinuses with sinusitis.</p> <p>Keywords: Curvelet Transforms, Sinusitis, GUI.</p> <p>References:</p> <ol style="list-style-type: none"> 1. K. Tingelhoff, I. Wagner, K.W. Eichhorn, Rilk M, Westphal R, Wahl FM, Bootz F. "Sensor-based force measurement during FESS for robot assisted surgery". GMS CURAC, vol. 2, no. 1, 2007. 2. M. Rilk, S. Winkelbach, F. Wahl. Partikelfilter-basiertes Tracking chirurgischer Instrumente in Endoskopbildern. Bildverarbeitung für die Medizin, 2006, pp. 414-418. 3. G. Strauss, K. Koulechov, R. Richter, A. Dietz, T. C. Lueth, "Navigated Control in functional endoscopic sinus surgery". Int J Medical Robotics and Computer Assisted Surgery, vol. 1, no. 3, 2005, pp. 31-41. 4. Y. Kawarai, K. Fukushima, T. Ogawa, K. Nishizaki, M. Gunduz, M. Fujimoto, Y. Masuda, "Volume quantification of healthy paranasal cavity by three-dimensional CT imaging." Acta Otolaryngol (Stockh) Suppl 540, 1999, pp. 45-49. 5. J. Lang, "Clinical Anatomy of the nose, nasal cavity and paranasal sinuses," Thieme Verlag, NY:New York, 1989. 6. J.A.C. Navarro, "The nasal cavity and paranasal sinuses: Surgical Anatomy," Springer-Verlag, Berlin: Germany, 2001. 7. D. Apelt, B. Preim, H. K. Hahn, G. Strauß. „Bildanalyse und Visualisierung für die Planung von Nasennebenhöhlen- Operationen.“ Bildverarbeitung für die Medizin 2004, Informatik aktuell. Springer, 2004, pp.194-198. 8. Z. Salah, D. Bartz, F. Dammann, E. Schwaderer, M. Maassen, W. Strasser, „A Fast and Accurate Approach for the Segmentation of the Paranasal Sinus". in: Proc. of Workshop Bildverarbeitung in der Medizin 2005, 2005, pp. 93-97. 9. T. F. Cootes, D. Cooper, C. J. Taylor, J. Graham, "Active Shape Models - Their Training and Application." Computer Vision and Image Understanding, vol. 61, no. 1, 1995, pp. 38-59. 10. T. F. Cootes, G. J. Edwards, C. J. Taylor. Active Appearance Models, in Proc. European Conference on Computer Vision , (H.Burkhardt & B. Neumann Ed.s), Springer, vol. 2, 1998, pp. 484-498. 11. Mercury Computer System, Inc., USA. "Amira Reference Guide". 12. H. Shi, W.C. Scarfe, A.G. Farman. Maxillary sinus 3D segmentation and reconstruction from cone beam CT data sets. Int J CARS. 1, 2006. pp. 83-89. 13. K. Tingelhoff, K.W. Eichhorn, I. Wagner, R. Westphal, F.M. Wahl, F. Bootz. Analysis of Manual Segmentation in Medical Image Processing. Accepted at Thematic Conference on Computational Vision and Medical Image Processing ECCOMAS VIPIMAGE, 2007. 14. I. Moral, M. E. Kunkel, M. Rilk, F. M. Wahl, K. Tingelhoff, F. Bootz. Paranasal sinuses segmentation/reconstruction for robot assisted endonasal surgery. Accepted at Thematic Conference on Computational Vision and Medical Image Processing ECCOMAS VIPIMAGE, 2007. 15. L. Hermoye, I. Laamari-Azjal, Z. Cao, L. Annet, J. Lerut, B. M. Dawant, B. E. Van Beers. "Liver Segmentation in Living Liver Transplant Donors: Comparison of Semiautomatic and Manual Methods". Radiology 11, 2004. 16. Q. Duan, D. Moses, M. B. Srichai, V. M. Pai, A. F. Laine. « Semi- Automatic Ventricular Border Segmentation Package Based on Multi-Phase Levelset Segmentation," International Society for Magnetic Resonance in Medicine (ISMRM) 14th Scientific Meeting & Exhibition, pp.1014. 17. Lila Iznita I., Vijanth S.A., Venkatachalam P.A., Member, IEEE, Lee S.N., Student Member, IEEE "Computerized Segmentation of Sinus Images". 18. K. Tingelhoff, A. I. Moral, M.E. Kunkel, M. Rilk, I. Wagner, K. W. G. Eichhorn, F. M. Wahl, F. Bootz. (2007). Comparison between Manual and Semi-Automatic Segmentation of Nasal Cavity and Paranasal Sinuses from CT Images. Institute of Electrical and Electronics Engineers (IEEE), 1-4244-0788-5/07/, 5505 – 5508 19. Linda Persson, Elias Kristensson, Lisa Simonsson, Mats Andersson, Katarina Svanberg, Sune Svanberg. (2006). Human Sinus Studies using Monte Carlo Simulations and Diode Laser Gas Absorption Spectroscopy. Institute of Electrical and Electronics Engineer (IEEE), 0-7803-9774-6/06/. 20. Ministry of Health. (2002). Economic Evaluation of Ministry of Health Diagnostic Imaging Services. (Clinical Research Center Publication). Kuala Lumpur: Beh Siu Joo, P. Sathyamoorthy, V.Subramani, Hanum Fauziah, Rugayah Bakri, Lim Teck Onn. 	
<p>Authors:</p> <p>Paper Title:</p>	<p>Nibha Tiwari, Sheela Verma</p> <p>An Innovative Approach for Solving Clock Drift Management Problem using Differential Evolution Algorithm</p>	
<p>6.</p>	<p>Abstract: Like distributed systems, wireless sensors networks often require a synchronization of time for consistency and coordination of data. Time synchronization is a critical piece of infrastructure in any distributed system. Time synchronization is mostly required in wireless sensor network. Having time synchronization in sensor network it allows collective signal processing, and helps in efficient sharing of the communication channel. Time synchronization is a critical piece of infrastructure for any distributed system. Distributed, wireless sensor networks make extensive use of synchronized time, but often have unique requirements in the scope, lifetime, and precision of the synchronization achieved, as well as the time and energy required to achieve it. The protocol which was developed for time synchronization of wireless sensor networks was Flooding Time Synchronization Protocol (FTSP) In this paper, FTSP is taken under the consideration for clock drift management using differential evolution (DE) algorithm. The paper calculates clock skew and the clock offset, generates linear line and optimizes the value of average time synchronization error using Genetic and DE algorithm. This paper dictates implementation and experimental results that produce reduced average time synchronization error optimized using DE, compared to that of linear regression used in FTSP.</p> <p>Keywords: Differential evolution (DE), Flooding Time Synchronization Protocol (FTSP).Time Synchronization, Average Time Synchronization Error, Clock Drift, Wireless sensor network.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Maroti, M., Kusy, B., Simon, G., Ledeczi, A.: Flooding time synchronization in wireless sensor networks. ACM SenSys'04, Baltimore, Maryland, pp. (2004). 2. Elson, J. E. Time Synchronization in Wireless Sensor Networks. Ph.D. Thesis, University of California, Los Angeles 2003. 3. Ganeriwal, S., Kumar, R., and Srivastava, M. B. Timing-Sync Protocol for Sensor Networks. The First ACM Conference on Embedded Networked Sensor System (SenSys), p. 138-149, November 2003. 4. Price, K. and Storn, R. (1996), Minimizing the Real Functions of the ICEC'96 contest by Differential Evolution, IEEE International Conference on Evolutionary Computation (ICEC'96) may 1996, 5. Storn, R. and Price, K., Differential Evolution a simple and efficient adaptive scheme for global optimization over continuous spaces, Technical Report TR-95-012, ICSI, 6. http://http.icsi.berkeley.edu/~storn/litera.html 	<p>25-28</p>

	<div>7. R.C. chakraborty “Fundamentals of genetic algorithms (2010)</div> <div>8. Josef Tvrdik University of Ostrava, Department of Computer Science” Adaptive Differential Evolution and Exponential Crossover”.</div> <div>9. Bharath Sundararaman, Ugo Buy, and Ajay D. Kshemkalyani” Clock Synchronization for Wireless Sensor Networks: A Survey ” March 22, 2005.</div> <div>10. Jeremy Eric Elso ” Time Synchronization in Wireless Sensor Networks”2003.</div> <div>11. I]Maroti, M., Kusy, B., Simon, G., Ledecz, A.: Flooding time synchronization in wireless sensor networks. ACM SenSys’04, Baltimore, Maryland, pp. (2004)</div> <div>12. Stojmenovic, I.:Handbook Of Sensor Networks Algorithms and Architectures. Canada : John Wiley & Sons (2005)</div> <div>13. Elson, J. E., Girod, L., Estrin, D.: Fine-Grained Network Time Synchronization using Reference Broadcasts. The Fifth Symposium on Operating Systems Design.</div>					
	<table><tr><td>Authors:</td><td>N.Anil Kumar, M. Satya Anuradha, Prakash.SSVD.Vepa, Ravuri Daniel</td></tr><tr><td>Paper Title:</td><td>Active Contours Techniques for Automatic Detection of Glaucoma</td></tr></table> <p>Abstract: The inadequate fluid flow between the iris and cornea of eye leads to glaucoma. The important technique to asses patients effected with glaucoma is analyzed by ultra sound images of the eye, For the detection of the structural changes an algorithm is proposed to focus on automatic detection and determining the exact location of the apex point of the anterior chamber region for efficient angle calculation from the various live ultra sound images. It is very important to detect glaucoma in its early stages for diagnosis and hence this algorithm addresses the importance of precise results with effective immunity towards speckle noise.</p> <p>Keywords: Active contours, Angle calculation, AOD-500 (Angle open distance), Apex point determination, masking, UBM (Ultrasound bio-microscopy)</p> <p>References:</p> <div>1. Elite School of Optometry(ESO), Sankara Nethralaya, 8, GST Road, St.Thomas Mount, Chennai - 600 016, TamilNadu,India. http://www.sankaranethralaya.org/regla.htm</div> <div>2. Glaucoma Research Foundation- funding innovative research to find a cure for Glaucoma.251 Post Street, Suite 600, SanFrancisco,CA. http://www.Glaucoma.org/learn/</div> <div>3. R.Youmaran, P. Dicorato, R. Munger, T.Hall, A. Adler - Automatic Detection of Features in Ultrasound Images of the Eye, IMTC 2005 – Instrumentation and Measurement Technology Conference, Ottawa, Canada, 17-19 May 2005.</div> <div>4. Xiaoyang Song, Keou Song, Yazhu Chen - A Computer-based Diagnosis System for Early Glaucoma Screening, Proceedings of the 2005 IEEE Engineering in Medicine and Biology 27th Annual Conference Shanghai, China, September 1-4, 2005.</div> <div>5. Rafael C. Gonzalez, Richard E. Woods, Steven L. Eddins, “Digital Image Processing using MATLAB®”, Pearson Education Asia Publications.</div> <div>6. Michael Kass, Andrew Witkin, and Demetri Terzopoulos. Schlumberger Palo Alto Research, 3340 Hillview Ave., Palo Alto, CA 94304.</div>	Authors:	N.Anil Kumar, M. Satya Anuradha, Prakash.SSVD.Vepa, Ravuri Daniel	Paper Title:	Active Contours Techniques for Automatic Detection of Glaucoma	29-31
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Paper Title:	Active Contours Techniques for Automatic Detection of Glaucoma					
7.	<table><tr><td>Authors:</td><td>Mohammed Sarvar Rasheed, A. M. Al-Ahmari, A. M. El-Tamimi, Mustufa H. Abidi</td></tr><tr><td>Paper Title:</td><td>Analysis of Influence of micro-EDM Parameters on MRR, TWR and Ra in Machining Ni-Ti Shape Memory Alloy</td></tr></table> <p>Abstract: In the micro-machining and MEMS industry, micro-Electrical discharge machining (μ-EDM) is an important process. In this paper, the Taguchi design approach has been employed to investigate the micro-EDM parameters in order to achieve the highest Material Removal Rate (MRR), good surface quality and low Tool Wear Rate (TWR) while machining Ni-Ti based Shape Memory Alloy (SMA). Based on these investigations, it has been observed that MRR is highly influenced by capacitance, discharge voltage and depends upon electrode material. TWR and Ra were found to be better at low energy levels. Tungsten electrode is recommended for better surface roughness and brass electrode for better MRR. SEM images have been used to observe the dimensional accuracy of micro-holes produced.</p> <p>Keywords: micro-EDM, micro-holes, Ni-Ti Shape Memory Alloy.</p> <p>References:</p> <div>1. K. Otsuka and T. Kakeshita, “Science and technology of shape memory alloys: new developments,” Materials research Society Bulletin, Vol. 27, 2002, pp.91-98.</div> <div>2. S. Stoeckel, “Nitinol Medical devices and implants,” Minimally Invasive Therapy & Allied Technologies, vol.9(2), 2000, pp. 81-88.</div> <div>3. H.C. Lin, K.M. Lin and Y.C. Chen, “A study on the machining characteristics of TiNi shape memory alloys,” J. of Mater. Process. Technol., vol.105, 2000, pp.327-332.</div> <div>4. W. Theisen and A. Schuermann, “Electrical discharge machining of nickel-titanium shape memory alloy,” Mat. Sci. Eng., A, 378(1-2), 2004, pp. 200-204.</div> <div>5. T. Masuzawa, “State of art of micro machining,” Ann. Of the CIRP, vol. 49 (2), 2000, pp.473-488.</div> <div>6. S.H. Huang, F.Y. Huang and B.H. Yan, “Fracture strength analysis of micro WC-shaft manufactured by micro-electro-discharge machining,” Int. J. of Adv. Manuf. Technol., Vol.26, 2005, pp. 68-77.</div> <div>7. D. Potz, W. Christ and B. Dittus, “Diesel nozzle-the determining interface between injection system and combustion chamber,” THIESEL, 2000, pp. 249-258.</div> <div>8. E. Bud Guitrau, “The EDM Handbook 1997,” Section 4, (Chapter 19), 1997.</div> <div>9. D.M. Allen and A. Lecheheb, “Micro electro-discharge machining ink jet nozzles: optimum selection of material and machining parameters,” J. Mater. Process. Technol., Vol.58, 1996, pp. 53-66.</div> <div>10. T. Sato, T. Mizutani and K. Kawata: Electro-discharge machine for micro-hole drilling, Natl. Techn. Rep., vol. 31, 1985, pp. 725-733.</div> <div>11. M. P. Jahan, Y. S. Wong and M. Rahman, “A study on the quality micro-hole machining of tungsten carbide micro-EDM process using transistor and RC-type pulse generator,” Int. Mater. Proc. Tech., vol. 209, 2009, pp. 1706-1716.</div> <div>12. S. Son, H. Lim, A. S. Kumar and M. Rahman, “Influences of pulsed power condition on the machining properties in micro-EDM,” J. Mater. Process. Technol., vol. 190, 2007, pp. 73-76.</div> <div>13. B. H. Yan, F. Y. Huang, H. M. Chow and J. Y. Tsai, “Micro-hole machining of carbide by electric discharge machining,” J. of Mat. Process. Technol., Vol. 87, 1999, pp. 139–145.</div> <div>14. M.P. Jahan, Y.S. Wong and M. Rahman, “A study on the fine-finish die-sinking micro-EDM of tungsten carbide using different electrode materials, J. Mater. Process. Technol. 209 (2009) 3956-396.</div> <div>15. B. B. Pradhan, M. Masanta and B.R. Sarkar, “Investigation of electro-discharge micro-machining of titanium super alloy,” Int. J. Adv. Manuf. Technol., Vol. 43, 2009, pp.1094-1106.</div> <div>16. Douglas C. Montgomery, “Design and Analysis of Experiments,” 7th edition, John Wiley Publications, 2010.</div>	Authors:	Mohammed Sarvar Rasheed, A. M. Al-Ahmari, A. M. El-Tamimi, Mustufa H. Abidi	Paper Title:	Analysis of Influence of micro-EDM Parameters on MRR, TWR and Ra in Machining Ni-Ti Shape Memory Alloy	32-37
Authors:	Mohammed Sarvar Rasheed, A. M. Al-Ahmari, A. M. El-Tamimi, Mustufa H. Abidi					
Paper Title:	Analysis of Influence of micro-EDM Parameters on MRR, TWR and Ra in Machining Ni-Ti Shape Memory Alloy					

	<div>17. F. Han, S. Wachi and M. Kunieda, "Improvement of machining characteristics of micro-EDM using transistor type isopulse generator and servo feed control," <i>Precis. Eng.</i>, Vol. 28(4), 2004, pp. 378–385.</div> <div>18. Y.T. Kim, S. J. Park and S. J. Lee, "Micro/Meso- scale shapes machining by micro-EDM process," <i>Int. J. Prec. Eng. Manuf.</i>, Vol. 6 (2), 2005, pp. 5-7.</div> <div>19. M. Mahardika, T. Tsujimoto and K. Mitsui, "A new approach on the determination of ease of machining by EDM processes," <i>Int. J. Mach. Tools Manuf.</i>, Vol. 48, 2008, pp. 746–760.</div> <div>20. Y.Y. Tsai and T. Masuzawa, "An index to evaluate the wear resistance of the electrode in micro-EDM," <i>Journal of Mat. Process. Technol.</i>, Vol. 149, 2004, pp. 304-309.</div> <div>21. R. Mehfuz and M.Y. Ali, "Investigation of machining parameters for the multi-response optimization of micro electro discharge milling," <i>Int. J. Adv. Manuf. Technol.</i>, Vol. 43, 2009, pp. 264-275.</div>					
9.	<table><tr><td>Authors:</td><td>Sauvik Das Gupta, Souvik Kundu, Abhishek Mallik</td></tr><tr><td>Paper Title:</td><td>A MEMS based Carbon Nanotube–Field Effect Transistor as a Gas Sensor</td></tr></table> <p>Abstract: This paper deals with the sensing and detection of harmful and toxic industrial gases which are posing a huge threat to the existence of life on earth. In this paper, we hypothesise the fabrication of a MEMS based Carbon Nanotubes(CNT)- Field Effect Transistor(FET) which will act as a gas sensor having almost threefold sensitivity and efficiency than the other metal oxide gas sensors such as Tin oxide (SnO2) sensors, which are available in the market. The Field effect transistor of (CNTs) are of great interest for various application including chemical and biological sensing. CNTs can be designed to have specific properties by changing the ratio of the diameters of linearly joined CNTs, which in turn can be used in the fabrication of FETs. The fabricated devices exhibit good electrical characteristics showing high Transconductance even at low levels of Gate voltage. With the increasing demand of CNTs in many applications due to its unusual properties, we propose that the fabrication of these CNT- FETs will also be quite economical. In this respect, it is also estimated that with the advent of large scale synthesis methods like Chemical Vapor Deposition (CVD), Carbon Arc methods, Laser evaporation etc for CNTs, its cost is also expected to come down in future.</p> <p>Keywords: CNT-FET, Economical, Gas sensor, MEMS, Transconductance</p> <p>References:</p> <div>1. Charles P. Poole Jr, Frank J. Owens, "Introduction to nanotechnology", Wiley India Pvt. Ltd.</div> <div>2. Morinubo Endo, Sumio Lijima, Mildred S. Dresselhaus, "Introduction to carbon nanotubes"</div> <div>3. J. Kong et al, "Science Journal"</div> <div>4. Hou et al, "A MEMS-Based Ionization Gas Sensor Using Carbon Nanotubes", <i>IEEE Transactions on Electron Devices</i>, VOL 54, No.6, June 2007</div> <div>5. Hou et al, "MEMS-based microelectrode system incorporating carbon nanotubes for ionization gas sensing ", Elsevier, ScienceDirect</div> <div>6. Sayago et al, "Carbon nanotube networks as gas sensors for NO2 detection", Elsevier, ScienceDirect, Talanta</div> <div>7. Yael Hanein, "Carbon nanotube integration into MEMS devices", <i>physica status solidi b</i></div> <div>8. Occhiuzzi et al, "RFID Passive Gas Sensor Integrating Carbon Nanotubes", <i>IEEE Transactions on Microwave Theory and Techniques</i>, VOL.59, NO.10, October 2011. Gas Passive Gas Sensor al,</div> <div>9. http://www.esa.int, Source: European Space Agency</div> <div>10. http://www.intellisensesoftware.com</div>	Authors:	Sauvik Das Gupta, Souvik Kundu, Abhishek Mallik	Paper Title:	A MEMS based Carbon Nanotube–Field Effect Transistor as a Gas Sensor	38-42
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10.	<table><tr><td>Authors:</td><td>Sauvik Das Gupta, Souvik Kundu, Abhishek Mallik</td></tr><tr><td>Paper Title:</td><td>Monitoring of Sag & Temperature in the Electrical Power Transmission lines</td></tr></table> <p>Abstract: For proper transmission of power in overhead transmission lines temperature control and sag monitoring are the two major parameters to be kept in mind. Electrical load variation and environmental changes affect the temperature in the transmission lines. For proper safety measurements these monitoring should be done on a continuous basis. Some of the ongoing temperature and sag monitoring methods that can be sited are the usage of stainless steel temperature probes, glass based sensors, thermocouples, RTDs, and Infrared sensors. However, all these methods have a disadvantage of having loosening of contacts. Cross sensitivity may also arise due to environmental contaminations. The disturbances caused by the different parameters can be stated as follows: -High temperature due to climate changes decreases the efficiency of electrical transmissions. Extreme weather conditions would increase the chances of failure rate of power lines. Temperature rise also results in an increase in thunder storms and results in the lightning strike of power lines. 2 degrees Celsius of temperature rise increases network losses by 0.04%. It is also found that operation of the conductors on high temperature reduces the mechanical integrity of the overhead systems. It is also clear that cumulative damage occurs to the Aluminium metal in the overhead conductors. Hence, in order to overcome these disadvantages, we hypothesise the introduction of MEMS (Micro Electro Mechanical Systems) technology through PLZT(L. This is a temperature sensor, which has numerous advantages over the existing ones. The thin film of Lead Lanthanum zirconate titanate (PLZT) will be coated on nickel foil by chemical solution deposition and this will be fabricated as sensor using MEMS technology. The sensor in turn will be embedded in the transmission line at selected point wherefrom monitoring of temperature and sag is quite feasible. This sensor will be having high chemical stability , high mechanical and thermal resistances , good piezoelectric coefficients and enhanced sensitivity for which it will be reckoned to be a more accurate and versatile one.</p> <p>Keywords: MEMS, PLZT, sag, temperature control</p> <p>References:</p> <div>1. Shirmohamadi; Manuchehr (Castro Valley, CA), US Patent # 6864421</div> <div>2. Andrea S.S. de Camargo, Joao Fernando Posatto, Luiz Antonio de Nunes, Eriton R. Botero, Erika R.M. Andreeta, Ducinci Garcia, Jose Antonio Eiras, Science Direct</div> <div>3. Beihai Ma, U. (Balu) Balachandran, David Y Kaufman, Krishna Uprety, US Patent</div> <div>4. Yi Yang, Student Member, IEEE, Deepak Divan, Fellow, IEEE, Ronald G. Harley, Fellow, IEEE, and Thomas G. Habetler, Fellow, IEEE,</div>	Authors:	Sauvik Das Gupta, Souvik Kundu, Abhishek Mallik	Paper Title:	Monitoring of Sag & Temperature in the Electrical Power Transmission lines	43-45
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	IEEE Journal 5. www.omnisens.com	
11.	Authors:	B.V.S.N.Lakshmi, C.Prakasa Rao
	Paper Title:	Managing P2P Reputation System Using Decentralized Approach
	<p>Abstract: In Peer-to-Peer networks, many security mechanisms are based on specific assumptions of identity and are vulnerable to attacks when these assumptions are violated. The traditional security techniques developed for the centralized distributed systems like client-server networks are insufficient for P2P networks by the virtue of their centralized nature. The absence of a central authority in a P2P network poses unique challenges for reputation management in the network. These challenges include identity management of the peers, secure reputation data management, Sybil attacks, and above all, availability of reputation data.</p> <p>In this paper, we present a cryptographic protocol for ensuring secure and timely availability of the reputation data of a peer to other peers. The past behavior of the peer is encapsulated in its digital reputation, and is subsequently used to predict its future actions. As a result, a peer's reputation motivates it to cooperate and desist from malicious activities. The cryptographic protocol is coupled with self-certification and cryptographic mechanisms for identity management and countering Sybil attack. We illustrate the security and the efficiency of the system analytically and by means of simulations in a completely decentralized P2P network.</p> <p>Keywords: Peer-to-Peer networks, security, identity management, reputation system.</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. Gupta, P. Judge, and M. Ammar, "A Reputation System for Peer-to-Peer Networks," Proc. 13th Int'l Workshop Network and Operating Systems Support for Digital Audio and Video (NOSSDAV), 2003. 2. L. Zhou, F. Schneider, and R. Renesse, "COCA: A Secure Distributed Online Certification Authority," ACM Trans. Computer Systems, vol. 20, no. 4, pp. 329-368, Nov. 2002. 3. C. Dellarocas, "Immunizing Online Reputation Reporting Systems against Unfair Ratings and Discriminatory Behavior," Proc. ACM Conf. Electronic Commerce, pp. 150-157, Oct. 2000. 4. J. Douceur, "The Sybil Attack," Proc. IPTPS '02 Workshop, 2002. 5. P. Dewan, "Injecting Trust in Peer-to-Peer Systems," technical report, Arizona State Univ., 2002. 6. D. Chaum, "Blind Signatures for Untraceable Payments," Proc. Advances in Cryptology (Crypto '82), 1983. 7. D.C. Montgomery, Design and Analysis of Experiments. J. Wiley and Sons, 2000. 8. D. Rumsey, Statistics for Dummies. J. Wiley and Sons, 2003. 9. E. Damiani, D. di Vimercati, S. Paraboschi, P. Samarati, and F. Violante, "A Reputation-Based Approach for Choosing Reliable Resources in Peer-to-Peer Networks," Proc. Conf. Computer and Comm. Security (CCS '02), pp. 207-216, 2002. 10. T. Rabin and M. Ben-Or, "Verifiable Secret Sharing and Multiparty Protocols with Honest Majority," Proc. 21st Ann. ACM Symp. Theory of Computing, pp. 73-85, 1989. 11. Cachin, K. Kursawe, A. Lysyanskaya, and R. Strohli, "Asynchronous Verifiable Secret Sharing and Proactive Cryptosystems," citeseer.nj.nec.com/cachin02asynchronous.html, 2002. 	
12.	Authors:	N. S. Bakde, A. P. Thakare
	Paper Title:	Morse Code Reader
	<p>Abstract: Whilst a cursory scan through the wave-bands on a modern "normal" domestic radio receiver may reveal little in the way of Morse code transmission, this communications technique is still very much in use. Tuning in via a "communications receiver" or an older domestic receiver on the short wave (SW) bands will reveal Morse activity. At that time PICs were probably not even a twinkle in the eye of any semiconductor manufacturer. They were certainly not reality. Consequently, the EE design was based on a hardware mark-space ratio detector which fed separate Morse dots, to a pre-PC computer (Commodore PET 32K). This compiled the incoming logic into a binary format, matched it against a lookup table and displayed the results on screen. The design presented here is physically simpler, although the software is considerably more complex. The aspects of this design are different. A handheld unit that can receive Morse code, via audio input (internal microphone) or direct signal connection, and translate it for display on an in-built liquid crystal (LCD) alphanumeric screen. It consists of a PIC microcontroller which provides the interface between the Morse code input and the display unit.</p> <p>Keywords: Major components and requirements, Translation requirements, Binary format, International Morse code, reception rate, circuit diagram, PIC processing, Message display</p> <p>References:</p> <ol style="list-style-type: none"> 1. How To Restore Telegraph Keys: W. R. Smith, W4PAL 2. Perera's Telegraph Collectors Guide (2nd. Edition) 3. Telegraph Collectors Reference (New 2nd. Edition) 4. Principles Of Telegraphy - N. N. Biswas 5. Arnold, G. (Ed.). (1994). Morse 2000 Conference. Morsum Magnificat. Issue 34, 7-8. 6. Gross, K. & Henderson, K. (1992). Comparison of Morse Code Software Programs. Presentation and handout at closing the Gap International Conference. 7. Western Digital My Book - Wikipedia, the encyclopedia 8. www.electronic-engineering.ch 9. www.books.google.co.in 10. www.hamradio.cc 11. www.trash.net 12. www.texttospeechblog.com 	
13.	Authors:	P K Srivastava, T R Sontakke
	Paper Title:	Cognitive Radio and Management of Spectrum in a Multi Radio Access Technology Environment
	<p>Abstract: Cognitive radio capabilities will lead to the ubiquitous availability of a great variety of innovative</p>	

	<p>services, delivered via a multitude of Radio Access Technologies (RATs). To achieve this vision, heterogeneity in wireless access technologies; including the requirements and capabilities of different services, mobility patterns, devices, and so forth. Since the demand for spectrum gradually increases and will continue to do so in future systems, this paper present some key-issues with respect to efficiently managing spectrum and brought into view the relevant regulatory perspectives. Moreover, the usage of spectrum will not fluctuate between extreme limits, but be constantly at a rather satisfactory level, giving the opportunity to stakeholders to create, introduce and experience innovative services and applications.</p> <p>Keywords: Cognitive radio, Radio Access Technologies (RATs), Cognitive Pilot Channel (CPC), Dynamic Spectrum Allocation (DSA).</p> <p>References:</p> <ol style="list-style-type: none"> 1. J A. Jamalipour, T. Wada, T. Yamazato, "A tutorial on multiple access technologies for beyond 3G mobile networks", IEEE Commun. Mag., vol. 43, no.2, Feb. 2005, pp. 110-117. 2. F. Akyildiz, S. Mohanty, J. Xie, "A ubiquitous communication architecture for next-generation heterogeneous wireless systems", IEEE Commun. Mag., Vol. 43, No. 6, June 2005, pp. s29-s36. 3. P.Demestichas, G.Vivier, K.El-Khazen, M.Theologou, "Evolution in wireless systems management concepts: from composite radio to reconfigurability", IEEE Commun. Mag., Vol. 42, No. 5, May 2004, pp. 90-98. 4. End to End Reconfigurability (E2R), IST-2003-507995 E2R, http://www.e2r.motlabs.com 5. E. Gustafsson and A.Jonsson, "Always Best Connected", IEEE Wireless Commun. Mag., vol. 10, no. 1, Feb. 2003, pp. 49-55. 6. FCC Proceedings on Cognitive Radio and SDR: Authorization and Use of Software Defined Radios ET Docket No. 00-47, Report and Order, September 2001, Facilitating Opportunities for Flexible, Efficient, and Reliable Spectrum Use Employing Cognitive Radio Technologies, ET Docket 03-108, Report and Order, March 2005 7. J. Mitola, III and G. Q. Maguire, Jr., "Cognitive Radio: Making Software Radios More Personal," IEEE Personal Communications Magazine, vol. 6, no. 4, pp. 13-18, August 1999. 8. J. Mitola, III, "Cognitive Radio: An Integrated Agent Architecture for Software Defined Radio," Thesis (PhD), Dept. of Teleinformatics, Royal Institute of Technology (KTH), Stockhol Sweden, May 2000. 9. J. I. Mitola, "Cognitive Radio for Flexible Mobile Multimedia Communications," in Proc. of IEEE International Workshop on Mobile Multimedia Communications, MoMuC '99, San Diego CA, USA, November 1999. 10. Federal Communications Commission Spectrum Policy Task Force, "Report of the Spectrum Rights and Responsibilities Working Group," ET Docket No. 02-135, 15 November 2002. 11. J. M. Peha, "Wireless Communications and Coexistence for Smart Environments," IEEE Personal Communications, pp. 66-68, October 2000. 12. Federal Communications Commission, "Report and Order (FCC 03-287): Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) devices in the 5 GHz band," ET Docket No. 03-122, 18 November 2003. 13. S. Mangold, Z. Zhong, K. Challapali, and C. T. Chou, "Spectrum Agile Radio: Radio Resource Measurements for Opportunistic Spectrum Usage," in Proc. of 47th annual IEEE Global Telecommunications Conference, Globecom 2004, Dallas TX, USA, 29 November - 3 December 2004. 14. D. Raychaudhuri and X. Jing, "A Spectrum Etiquette Protocol for Efficient Coordination of Radio Devices in Unlicensed Bands," in Proc. of 14th IEEE Conference on Personal, Indoor and Mobile Radio Communications, PIMRC 2003, Beijing, China, 7-10 September 2003. 15. L. Berlemann and B. Walke, "Spectrum Load Smoothing for Optimized Spectrum Utilization - Rationale and Algorithm," in Proc. of IEEE Wireless Communication and Networking Conference, WCNC 2005, New Orleans LA, USA, 13-17 March 2005. 16. L. Berlemann, S. Mangold, and B. H. Walke, "Policy-based Reasoning for Spectrum Sharing in Cognitive Radio Networks," in Proc. of 1st IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks, DySPAN2005, Baltimore MD, USA, 8-11 November 2005. 	
	<p>Authors: M.Nireesh Kumar, J.Hemanth, K.Durga Prasad</p> <p>Paper Title: VLSI Implementation of DWT Using Systolic Array Architecture</p> <p>Abstract: This work presents an implementation of Discrete Wavelet Transform (DWT) using Systolic architecture in VLSI. This architecture consist of Input delay unit, filter, register bank and control unit. This performs the calculation of high pass and low pass coefficients by using only one multiplier. This architecture has been simulated and implemented in VLSI. The hardware utilization efficiency is more compared to the referred due to FBRA Scheme. The systolic nature of this architecture corresponding to a clock speed of 115.9 MHz has its advantage in Optimizing area, time and power. The architecture is simple, modular, and cascadable for computation of one, or multi-dimensional DWT.</p> <p>Keywords: DWT, Six tap FIR Filter, Systolic Array Architecture, Decomposition, FBRA.</p> <p>References:</p> <ol style="list-style-type: none"> 1. I. Daubechies, "Orthonormal bases of compactly supported wavelets," Comm. Pure Appl. Math, Vol. 41, pp. 906-966, 1988. 2. S. G. Mallat, "A theory of multiresolution signal decomposition: the wavelet representation," IEEE Trans. on Pattern Recognition and Machine Intelligence, Vol. 11, No. 7, July 1989. 3. M. Vetterli and C. Harley, "Wavelets and filter banks: theory and design," IEEE Transactions on Signal processing, Vol. 40, No. 9, pp. 2207-2232, 1992. 4. Y. Meyer, Wavelets: Algorithms and Applications, SIAM, Philadelphia, 1993 5. R. A. Devore, B. Jawerth and B. J. Lacier, "Image compression through wavelet coding," IEEE Trans. on Information Theory, Vol. 38. 6. O. Rioul and M. Vetterli, "Wavelets and signal processing," IEEE Signal processing Magazine, pp. 14-38, Oct. 1991. 7. R. A. Gopinath, Wavelets and Filter Banks – New Results and Applications, PhD Dissertation, Rice University, Houston, Texas, 1993. 8. S. G. Mallat, "Multifrequency channel decompositions of images and wavelet models", IEEE Trans. On Acoustics, Speech and Signal Processing Vol. 37, No. 12, pp. 2091-2110, Sept. 1989. 9. K. K. Parhi and T. Nishitani, "VLSI architectures for discrete wavelet transforms", IEEE Trans. On VLSI Systems, pp. 191-202, June 1993. 10. Aware Wavelet Transform Processor (WTP) Preliminary, Aware Inc., Cambridge, MA. 11. A. D. Booth, "A signed binary multiplication technique", Quarterly Journal of Mechanics and Applied Mathematics, Vol. 4, pp. 236-240, 1951. 	
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15.	<p>Authors: Kuldeep Niranjana, Sanjay Srivastava, Jaikaran Singh, Mukesh Tiwari</p>	

Paper Title:	Comparative Study: MOSFET and CNTFET and the Effect of Length Modulation
<p>Abstract: Carbon nanotubes (CNTs) provide a number of unique feature and special properties that offers a great promise for nanoelectronic applications. In particular, the high electrical conductivity of quantum wires provides a potential solution for on-chip interconnect metals and transistors of future integrated circuits (IC's). Carbon nanotubes (CNTs) are envisioned to be used as the basic building blocks in future electronics application due to their excellent electronic properties such as high mobility, compatibility with high dielectric constants (K) and small diameters resulting in advantageous electrostatics. The purpose of this study was to develop a complete current transport model for carbon nanotube field effect transistors (CNT-FETs) applicable in the analysis and design of integrated circuits. The model was derived by investigating the electronic structure of carbon nanotubes and using basic laws of electrostatics describing a field effect transistor. Traditional MOSFET have the limitation after 60nm, So In this paper we theoretically change the channel material of traditional MOSFET with carbon nano tube (CNT) and compare the characteristics parameter. Here we found a great result like as mobility, device size Switching speed, current capacity. We compare the performance of CNTFET and MOSFET with respect to different type of gate material, effective length, and gate to source voltage. The I-V characteristic of the CNTFET is similar to MOSFET.</p> <p>Keywords: Anisotropy, CNT-FET, Lateral Growth Work Function</p> <p>References:</p> <ol style="list-style-type: none"> 1. G. Moore 1975, "Progress in Digital Electronics," IEDM Tech Digest, 1975, pp 11-13. 2. J.D. Plummer, P.B. Griffin, "Material and process limits in silicon VLSI technology," Proc. IEEE 89, 240 (2001). 3. Lee K., Shur M., Fjeldly T. A., and Ytterdal T. "Semiconductor Device Modeling for VLSI", Prentice Hall, Englewood Cliffs, (1993) 4. T. Sakurai, and A. R. Newton, "Alpha-power law MOSFET model and its applications to CMOS inverter delay and other formulas", IEEE J. Solid-State Circuits, vol. 25, pp. 584-594, Apr. 1990. 5. "International Technology Roadmap for Semiconductors" 2009 Edition. 6. Neil, H.E. West Eshraghian "principal of VLSI design" ISBN-0-201-08222-5, 1988, Second Edition. 7. S. Salahuddin, M. Lundstrom, and S. Datta, IEEE Trans. Elec. Dev. 52, 1734 (2005). 8. Ali Javey, Jing Guo, Qian Wang, Mark Lundstrom, and Hongjie Dai, "Ballistic carbon nanotube field-effect transistors", Nature, 2003. 9. X. Blase, Lorin X. Benedict, Eric L. Shirley, and Steven G. Louie, "Hybridization effects And metallicity in small radius carbon nanotubes", Phys. Rev. Lett., 72(12), (1994). 10. Alex Kleiner and Sebastian Eggert, "Curvature, hybridization, and STM images of carbon nanotubes", Phys. Rev. B, 64, 2001. 11. Cabria, J. W. Mintmire, and C. T. White, "Metallic and semiconducting narrow carbon nanotubes", Phys. Rev. B, 67, 2003. 12. Kuldeep Niranjana, S. Shrivastava, Jaikaran Singh, "Carbon Nanotube Field Effect Transistor: Fabrication of Thin Film of SiO₂-Based Micro Cantilevers Dielectric Layer between the Channel and Substrate by Anisotropic Chemical Etching of (100) Single Crystal Si" (IJITEE) ISSN: 2278-3075, Volume-1, Issue-4, September 2012. 13. G. Wilk, R.M. Wallace, J.M. Anthony, "High-κ gate dielectrics: Current status and materials properties considerations," J. Appl. Phys. 89, 5243 (2001). 	
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