Volume 2 Issue 9, August 2015

International Journal of Advanced Engineering and Nano Technology

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

1.

Authors: Ramy Ahmed Mohamed, Mahmoud Fathy Mahmoud, Hossam Labib Abdel Fattah Zayed

Paper Title: Identification of Persons by Fingerprint Recognition and Verification using Minutiae Extraction Technique with Compression Technique

Abstract: Fingerprint identification and recognition is one of the most common biometric features used for personal recognition. There are many techniques used for finding the features of the fingerprint to manage the way to make it more dependable when matching it with other images of fingerprints. In this paper, the minutiae extraction technique has been used for fingerprint recognition and verification. Two types of compression techniques (Huffman compression code and Arithmetic compression code) have been used to improve the problem of the large size of the storage space of the database used for fingerprint images. Huffman compression technique was the most accurate technique for compression of fingerprint images due to the resulting of the factors of Compression Ratio (CR), Matched score (S), False Matching Ratio (FMR) and False Non Matching Ratio (FNMR), and that when the adaptive threshold has been used to improve the system.

Keywords: Arithmetic code compression, Compression ratio, False matched ratio, False non matched ratio, Fingerprint recognition and verification, Huffman code compression, Matched score.

References:

1. N. M. S. K. Y. Rahul Sharma, "Fingerprint Recognition System and Tehniques: A Survey," in International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June-2013 , Ghaziabad, India, 2013.
2. S. T. e. al, "A Hybrid System for Fingerprint Identification," in Department of Computer Engineering, Mumbai University, Mumbai, India, 2010.
3. J. Yang, "Fingerprint Matching using A Hybrid Shape and Orientation Descriptor," in Charles Sturt University , Sydney, Australia, 2011.
4. K.Parnima, "Losless Image Compression Using traditional and lifting based wavelet transform," in International Jornal of innovative research and studies , 2013.
5. Seema Loonker, "Huffman Coding Technique For Image Compression And Reconstruction Using Binary Trees," in College of Science & Technology, Jodhpur, 2012.
6. S. L. D. D. S. Mridul Kumar Mathur, "Lossless Huffman Coding Technique For Image Compression And Reconstruction Using Binary Trees," in International Journal of Computer Technology and Applications IJCTA, Jodhpur, Rajasthan, India, 2012.
7. Efficient adaptive arithmetic coding based on updated probability distribution for lossless image compression", J. Electron. Imaging. 19(2), 023014 (June 01,2010).
8. Dr. Younus Javed Department of Computer Engineering, College of Electrical & Mechanical Engineering National University of Sciences & Technology (NUST), Islamabad, Pakistan 2015
9. D. S. F. S. Marco Gamassi, "Biometric Report," in University of Milan Department of Information Technologies, Milan, Italy, 2005.
10. C.Wu, "Advanced Feature Extraction Algorithms For Automatic Fingerprint Recognition Ystems," in faculty of the graduate school of state, university of new york , NewYork, USA, 2007.

2.

Authors: V. G. Khurd, Nitish M. Patil

Paper Title: Experimental Study of Properties of Pervious Concrete as a Pavement Material

Abstract: Pervious concrete also referred to as "No-fine Concrete" or "Porous Concrete" is material comprised of narrowly graded coarse aggregates, cementitious materials, water and admixture and in some cases fibers. Carefully controlled amount of water and cementitious materials are used to create a paste that forms a thick coating around aggregate particles without flowing off during mixing and placing. The pervious concrete is a special high porosity concrete that allows water from precipitation and other sources to pass through, thereby reducing the runoff and recharging ground water level. Its void content ranges from 18 to 35%, compressive strength from 4Mpa to 30Mpa. The infiltration rate is fall in range of 100 to 750 liter per m2. And due to high void content pervious concrete is also lightweight with density 1600 Kg/m3 to 2100 Kg/m3. Pervious concrete traditionally used in parking areas, area with light traffic, pedestrian walkways and green houses, contributing to sustainable development. In present paper the various mixes of previous concrete were prepared with different amount of aggregates, cement and fly ash to find the properties like compressive strength, permeability and flexural strength to check its suitability as pavement material..

Keywords: No fines Concrete, Porosity, Infiltration Rate, fly ash, Sustainable development

References:

1. Obla, K.H., "Pervious Concrete-An overview", The Indian Concrete Journal, August 2010, pp. 9-18
2. Neithalath, N., Weiss, J., and Olek, J.. Characterizing Enhanced Porosity Concrete using electrical impedance to predict acoustic and hydraulic performance." Int. Journal of Cement and Concrete Research, Vol.36, No.11, (2006), pp. 2074-2085.
3. Zouaghi, A., and Kumagai, M., "Adaptability of Porous Concrete to the Environment", A monthly report of Civil Engineering Research Institute For Cold Region, No.566, (2000), pp.11-24
4. Ravindrarajah, R. and Aoki, Y. "Environmentally Friendly Pervious Concrete", International Conference on Advances in Concrete and Construction (ICACC-2008), Hyderabad, Andhra Pradesh, India,(2008)
5. Matsuo, Y., Morino, K., and Iwatsuki, E.. "A Study of Porous Concrete Using Electric Arc Furnace Oxidizing Slag Aggregate", Bulletin of Aishi Institute of Technology, No. 40, (2005), pp. 167-174.
6. Schaefer, V. R., Wang, K., Suleiman, M., T, and Kevern, J., T., "Mix Design Development for Pervious Concrete in Cold Weather Climates", National Concrete Pavement Technology Centre Publication, USA, (2006), 85p

7. Tennis, P. D., Leming, M. L., and Akers, D. J., "Pervious Concrete Pavement", Portland cement Association, National Ready Mixed Concrete Association, (2004), 25p.
8. Ghafoori, N., and Dutta, S.,"Laboratory Investigation of Compacted No-Fines Concrete for Paving Materials", Journal of Materials in Civil Engineering, Vol7, No. 3, (1995), pp.183-191
9. Yang, J., and Jiang, G., "Experimental study on properties of pervious concrete pavement materials", Int. Journal of Cement and Concrete Research, Vol.33, No.3, (2003), pp.381-386.
10. American Concrete Institute, "Pervious Concrete", ACI 5222R-06, Detroit, USA, (2006)
11. IS: 516:1999, Methods of Tests for Strength of Concrete, BIS, 2002, New Delhi.

3.	**Authors:**	**Anuranjan Misra, Upawan Kishor, Md Muazzam**	
	Paper Title:	**Challenges in Implementing Smart Grid in Power Systems**	
	Abstract: Electricity, considered by most to be energy, is actually an energy currency. Power collected from a variety of sources, such as falling water, burning fuel, wind and solar is used to create electricity for delivery to customers. Electricity has proven to be a convenient and efficient means of delivering energy. Electricity is delivered at the speed of light and is consumed the instant it is created. There is no means to store electricity without converting it to another form of energy. As a result, the demand for power, driven by users, must match the supply of power from the available sources (e.g. generators and energy storage devices) at all times. As the Smart Grid continues to evolve, and demand-side management, which is available today, builds on its growing reputation as a cost-effective way for industrial users to manage energy usage and costs, buy-in from both residential and industrial consumers will become simpler. In this paper we have discussed use of ICT in Smart Grid, concept of Smart Grid, Goals and Objectives of Smart Grid, Characteristics of Smart Grid, Smart Grid Applications and Services, and Challenges in Smart Grid. **Keywords:** Electricity, ICT, Grid, Smart, power **References:** 1. U.S. Department of Energy. Office of Electricity Delivery and Energy Reliability, Recovery Act Financial 2. E. Hau. Wind Turbines. Fundamentals, Technologies, Application, Economics (2nd ed.). Berlin: Springer, 2006. 3. F.J. García-Martín, M. Berenguel, A. Valverde, and E.F. Camacho. "Heuristic knowledge-based heliostat field control for the optimization on the temperature distribution in a volumetric receiver," Solar Energy, vol. 66,no. 5, pp. 355-369, August 1999. ISSN 0038-092X. 4. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 5. European Wind Energy Association. Wind Energy - The Facts. Earthscan, 2009. 6. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 7. Assistance Funding Opportunity Announcement, Smart Grid Investment Grant Program, DE-FOA-0000058, June 25, 2009.	**11-13**
4.	**Authors:**	**Anuranjan Misra, Deshraj, Md Muazzam**	
	Paper Title:	**Importance for Smart Grid in The ICT Perspective**	
	Abstract: A smart grid is a modernized electrical grid that uses analog or digital information and communications technology to gather and act on information - such as information about the behaviours of suppliers and consumers - in an automated fashion to improve the efficiency, reliability, economics, and sustainability of the production and distribution of electricity. [2] Electronic power conditioning and control of the production and distribution of electricity are important aspects of the smart grid. **Keywords:** smart, grid , efficiency, Electronic, power, such **References:** 1. U.S. Department of Energy. Office of Electricity Delivery and Energy Reliability, Recovery Act Financial 2. Assistance Funding Opportunity Announcement, Smart Grid Investment Grant Program, DE-FOA-0000058, June 25, 2009. 3. E. Hau. Wind Turbines. Fundamentals, Technologies, Application, Economics (2nd ed.). Berlin: Springer, 2006. 4. F.J. García-Martín, M. Berenguel, A. Valverde, and E.F. Camacho. "Heuristic knowledge-based heliostat field control for the optimization on the temperature distribution in a volumetric receiver," Solar Energy, vol. 66,no. 5, pp. 355-369, August 1999. ISSN 0038-092X. 5. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 6. European Wind Energy Association. Wind Energy - The Facts. Earthscan, 2009. 7. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005.	**14-16**
5.	**Authors:**	**Anuranjan Misra, Raj Kumar Baghel, Raoashu**	
	Paper Title:	**Security Considerations in Implementing Smart Grid**	
	Abstract: Smart Grid facilitates efficient and reliable end-to-end intelligent two-way delivery system from source to sink as well as integration of renewable energy sources • Smart grid will be able to coordinate the needs and capabilities of distribution utilities, end users and electricity market stakeholders in such a way. It can optimize asset utilization, resource optimization, control and operation. Reduction in losses, performance improvement • It encompasses Integration of Power, Communication, intelligent devices, intelligent computing system for improved electrical infrastructure that serves consumers with reliability, quality & affordable price • Helps both Utility and consumers to participate in the management of electricity sector including efficient utilization of assets – bringing efficiency and sustainability .In This Paper we had discuss Communication Plane, Energy Plane, required Security features.	**17-18**

	Keywords: Smart, Grid, efficient, Power, electricity, Energy, Plane, Security, management, coordinate **References:** 1. U.S. Department of Energy. Office of Electricity Delivery and Energy Reliability, Recovery Act Financial 2. E. Hau. Wind Turbines. Fundamentals, Technologies, Application, Economics (2nd ed.). Berlin: Springer, 2006. 3. F.J. García-Martín, M. Berenguel, A. Valverde, and E.F. Camacho. "Heuristic knowledge-based heliostat field control for the optimization on the temperature distribution in a volumetric receiver," Solar Energy, vol. 66,no. 5, pp. 355-369, August 1999. ISSN 0038-092X. 4. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 5. European Wind Energy Association. Wind Energy - The Facts. Earthscan, 2009. 6. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 7. Assistance Funding Opportunity Announcement, Smart Grid Investment Grant Program, DE-FOA-0000058, June 25, 2009.	
6.	**Authors:**	**Anuranjan Misra, Yogesh Kumar, Md Muazzam**
	Paper Title:	**Challenges in Smart Grid of Future**
	Abstract: Our nation's infrastructure for generating, transmitting, and distributing electricity – "The Grid" – is a relic based in many respects on century-old technology. It consists of expensive, centralized generation via large plants, and a massive transmission and distribution system. It strives to deliver high-quality power to all subscribers simultaneously – no matter what their demand – and must therefore be sized to the peak aggregate demand at each distribution point. In this paper we describe what the electricity grid could look like in 10 years, and specifically how Federal investment in data analytics approaches is critical to realizing this vision. **Keywords:** nation's, generating, electricity, Grid, power, paper, system **References:** 1. U.S. Department of Energy. Office of Electricity Delivery and Energy Reliability, Recovery Act Financial 2. E. Hau. Wind Turbines. Fundamentals, Technologies, Application, Economics (2nd ed.). Berlin: Springer, 2006. 3. F.J. García-Martín, M. Berenguel, A. Valverde, and E.F. Camacho. "Heuristic knowledge-based heliostat field control for the optimization on the temperature distribution in a volumetric receiver," Solar Energy, vol. 66,no. 5, pp. 355-369, August 1999. ISSN 0038-092X. 4. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 5. European Wind Energy Association. Wind Energy - The Facts. Earthscan, 2009. 6. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 7. Assistance Funding Opportunity Announcement, Smart Grid Investment Grant Program, DE-FOA-0000058, June 25, 2009.	**19-21**
7.	**Authors:**	**Anuranjan Misra, S.M. Ashhad Usmani, Md Muazzam**
	Paper Title:	**Issues in Implementing Smart Grid in Power Systems**
	Abstract: In this paper an attempt has been made to analyze the key challenges in implementing the Smart Grid concept in India. In most of the advanced countries Utilities have made major achievements in terms of productivity, reliability, and efficiency through the use of Smart Grid technology. Indian utilities are still lagging far behind when compared to other countries. Today their main focus is on providing energy at reasonable price but soon the day will come when the utilities will be focusing on encompassing sustainable use and environmental improvement into their agendas. **Keywords:** concept, India, Smart, Grid, energy, key **References:** 1. U.S. Department of Energy. Office of Electricity Delivery and Energy Reliability, Recovery Act Financial 2. E. Hau. Wind Turbines. Fundamentals, Technologies, Application, Economics (2nd ed.). Berlin: Springer, 2006. 3. F.J. García-Martín, M. Berenguel, A. Valverde, and E.F. Camacho. "Heuristic knowledge-based heliostat field control for the optimization on the temperature distribution in a volumetric receiver," Solar Energy, vol. 66,no. 5, pp. 355-369, August 1999. ISSN 0038-092X. 4. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of WAMS implementation in North America," in Proc. 2005 IEEE/PES Transmission and Distribution Conference & Exhibition: Asia and Pacific, Dalian, China, 2005. 5. European Wind Energy Association. Wind Energy - The Facts. Earthscan, 2009. 6. J.Y. Cai, Z. Huang, J. Hauer, and K. Martin. "Current status and experience of 7. http://smartgrid-for-india.blogspot.com/ 8. http://www.smartgridnews.com/artman/publish/article_303.html 9. http://www.projectsmonitor.com/ELECTRICITY/india-is-gearing-up-for-smart-grid-technology 10. http://gigaom.com/cleantech/5-reasons-why-developing-countries-need-smart-grids-too/ 11. http://www.metering.com/node/17642 12. http://panchabuta.wordpress.com/2010/11/17/first-pilot-project-of-smart-grid-technology-in-electronic-city-bangalore-india/ 13. http://www.energyandcapital.com/articles/smart-grid-developments/1257 14. http://spectrum.ieee.org/tag/smart+grids 15. http://www.drumindia.org/smartgrid/agenda.asp 16. http://en.wikipedia.org/wiki/Smart_grid	**22-25**