International Journal of Innovative Technology and Exploring Engineering

ISSN : 2278 - 3075
Website: www.ijitee.org
Volume-7 Issue-5, FEBRUARY 2018
Published by:
Blue Eyes Intelligence Engineering and Sciences Publication Pvt. Ltd.

Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura, Egypt.

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

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

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

Technical Program Committee Chair

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

Technical Program Committee Members

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

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

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

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

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

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

Convener Chair

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

Editorial Chair

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

Editorial Members

Dr. K. Priya
Professor & Head, Department of Commerce, Vivekanandha College of Arts & Sciences for Women (Autonomous, Elayampalayam, Namakkal (Tamil Nadu), India.

Dr. Pushpender Sarao
Professor, Department of Computer Science & Engineering, Hyderabad Institute of Technology and Management, Hyderabad (Telangana), India.

Dr. Nitasha Soni
Assistant Professor, Department of Computer Science, Manav Rachna International Institute of Research and Studies, Faridabad (Haryana), India.

Dr. Siva Reddy Sheri
Associate Professor, Department of Mathematics, School of Technology Hyderabad Campus, GITAM University, Visakhapatnam (Andhra Pradesh), India.

Dr. Nihar Ranjan Panda
Associate Professor, Department of Electronics and Communication Engineering, Sanketika Vidya Parishad Engineering College, Visakhapatnam (Andhra Pradesh), India.

S. No | **Volume-7 Issue-5, February 2018, ISSN: 2278-3075 (Online)**
Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd. | **Page No.**

1.

Authors: Abhinav Pandey, Harendra Singh

Paper Title: A Survey on Live Video Stream using Distributed Technologies

Abstract: As data is growing in multiple dimensions with lots of verities and gradually becoming humungous so there is high demand of frameworks for processing Big Data. There were frameworks available for processing structured and semi-structured data but for processing un-structured data with real time analysis, very few options were availabe which can process only limited amount of data and high volume of data was a bottleneck for IT industries. It was not a big deal to work with 'data in rest' and only few frameworks available for analyzing data in motion like Apache Storm, got lots of motivation. Recently, for live streaming analysis and instant decision making Spark Streaming got introduced by Data Bricks and this is gaining lots of limelight due to its easy configuration and setup with loads of machine learning techniques and reliability at distributed platform. Using Storm prediction and face recognition were implemented. Through this study we will implement Real time video streaming analysis using Spark Streaming.

Keywords: Distributed system, Hadoop, Spark, Spark Streaming, Opne CV.

References:

1. Human Action Recognition Using Adaptive Local Motion Descriptor in Spark, Md Azher Uddin, Joolekha Bibi Joolee, Aftab Alam, And Young-Koo Lee, Department of Computer Science and Engineering, Kyung Hee University, Yongin 1732, South Korea
2. Du-Hyun Hwang, Yoon-Ki Kim and Chang-Sung Jeong,"Real –Time Pedestrian D Etection Using A Pache S Torm In A D Distributed Environment".
3. Shreenath Dutt, Ankita Kalra, "A Scalable and Robust Framework for Intelligent Real-time Video Surveillance"
4. Lokesh Babu Rao, C. Elayaraja 2, "Image Analytics on Big Data In Motion - Implementation of Image Analytics CCL in Apache Kafka and Storm"
5. OpenCV http://docs.opencv.org/2.4/modules/contrib/doc
6. StormCV https://github.com/sensorstorm/StormCV
7. Jianbing Ding, Hongyang Chao, Mansheng Yang, "Real-Time Logo Recognition from Live Video Streams using an Elastic Cloud Platform".
8. Weishan Zhang, Liang Xu, Pengcheng Duan, Wenjuan Gong, Xin Liu, Qinghua Lu,"Towards a High Speed, Video Cloud Based on Batch processing Integrated with Fast processing"
9. Hongyang Chao, "Real-Time Logo Recognition from Live Video Streams Using an Elastic Cloud Platform"
10. Vaithilingam Anantha Natarajan, Subbaiyan Jothilakshmi, Venkat N Gudivada, "Scalable Traffic Video Analytics using Hadoop MapReduce"
11. Supun Kamburugamuve, Leif Christiansen, and Geoffrey Fox, "A Framework for Real Time Processing of Sensor Data in the Cloud"

1-3

2.

Authors: Abhinav Pandey, Harendra Singh

Paper Title: Face Recognition of Pedestrians from Live Video Stream using Apache Spark Streaming and Kafka

Abstract: Face recognition of pedestrians by analyzing live video streaming, aims to identify movements and faces by performing image matching with existing images using Apache Spark Streaming, Kafka and OpenCV, on distributed platform and derive decisions. Since video processing and analysis from multiple resources become slow when using Cloud or even any single highly configured machine, hence for making quick decisions and actions, Apache Spark Streaming and Kafka have been used as real time analysis frameworks, which deliver event based decisions making on Hadoop distributed environment. If continuous live events analysis is possible then the decision can make there-after or at the same time. And large amount videos in parallel processing are also not a bottleneck after getting the involvement of Hadoop because base of all real time analysis distributed tools is Hadoop. This event based analysis can be applied at any place where an immediate action is required like monitoring border areas of countries by cameras and drones, road traffic monitoring, life science domain, airlines, logo recognition and where-ever continuous monitoring and decision making involved in large scale data set.

Keywords: Distributed System, Hadoop, Spark, Spark Streaming, Kafka, Open CV.

References:

1. Md Azher Uddin , Joolekha Bibi Joolee, Aftab Alam, And Young-Koo Lee Department of Computer Science and Engineering, Kyung Hee University, Yongin 1732, South Korea Corresponding author: Young-Koo Lee (yklee@khu.ac.kr) "] Human Action Recognition Using Adaptive Local Motion Descriptor in Spark"
2. Du-Hyun Hwang, Yoon-Ki Kim and Chang-Sung Jeong, "Real –Time Pedestrian Detection Using Apaches Torm In A Distributed Environment".
3. Shreenath Dutt, Ankita Kalra, "A Scalable and Robust Framework for Intelligent Real-time Video Surveillance"
4. Lokesh Babu Rao, C. Elayaraja 2, "Image Analytics on Big Data In Motion - Implementation of Image Analytics CCL in Apache Kafka and Storm"
5. OpenCV http://docs.opencv.org/2.4/modules/contrib/doc
6. StormCV https://github.com/sensorstorm/StormCV
7. Jianbing Ding, Hongyang Chao, Mansheng Yang, "Real-Time Logo Recognition from Live Video Streams using an Elastic Cloud Platform".
8. Weishan Zhang, Liang Xu, Pengcheng Duan, Wenjuan Gong, Xin Liu, Qinghua Lu, "Towards a High Speed, Video Cloud Based on Batch processing Integrated with Fast processing"
9. Hongyang Chao, "Real-Time Logo Recognition from Live Video Streams Using an Elastic Cloud Platform"
10. Vaithilingam Anantha Natarajan, Subbaiyan Jothilakshmi, Venkat N Gudivada, "Scalable Traffic Video Analytics using Hadoop MapReduce"
11. Supun Kamburugamuve, Leif Christiansen, and Geoffrey Fox, "A Framework for Real Time Processing of Sensor Data in the Cloud"

4-10

3.

Authors: J. H. Patil, S. N. Patankar

Paper Title: A Graph Based Multilingual Word Sense Disambiguation

Abstract: Nowadays, the need of advanced free text filtering is increasing. Therefore, when searching for specific keywords, it is desirable to eliminate occurrences where the word or words are used in an inappropriate sense. This

11-16

task could be exploited in internet browsers, and resource discovery systems, relational databases containing free text fields, electronic document management systems, data warehouse and data mining systems, etc. In order to resolve this problem in this work, we present joint approach to Word Sense Disambiguation (WSD). Our method exploits IndoWordNet, is a linked lexical knowledge base of word nets of 18 scheduled languages of India, a very large knowledge base, to perform graph based WSD across different languages in India, and brings together empirical evidence from these languages using ensemble methods. Therefore the results show that, by complementing the wide-coverage lexical knowledge with robust graph-based algorithms and combination methods, we can achieve the state of the art in WSD settings. However, it does not require any sort of training process, no hand-coding of lexical entries, nor the hand-tagging of texts.

Keywords: Word Sense Disambiguation, IndowordNet, Graph Based Approach, Multilingual Information.

References:

1. Zipf, George Kingslay "Human Behaviour and the principal of least effort: An introduction to human ecology".Cambridge, MA: Addison-Wesley.Reprinted by New York: Hafner, 1972
2. Kaplan, A. (1950). An experimental study of ambiguity and context", in Mimeographed, in November, pp18. Reprinted in Mechanical Translation,1955, vol: 2(2), pp: 39-46 "An experimental study of ambiguity and context".
3. Wilks, Yorick. (1975). A Preferential Pattern-Seeking Semantics for Natural Language Inference. Artificial Intelligence, 6:53-74.
4. Lesk, M. (1986). Automatic Sense Disambiguation Using Machine Readable Dictionaries: How to Tell a Pine Cone from an Ice Cream Cone", Proceedings of SIGDOC.
5. Guthrie, J., L. Guthrie, Y. Wilks, and H. Aidinejad. 1991. Subject-dependent co-occurrence and word sense disambiguation. In Proceedings of the 29th Annual Meeting of the Association for Computational Linguistics, 146-152
6. Miller, G. A., Ed. WordNet: An on-line lexical database. International Journal of Lexicography 3, 4 (Winter 1990), 235—312
7. P.F. Brown, J.C. Lai, and R.L. Mercer. (1991). Aligning Sentences In Parallel Corpora. In Proceedings of 29th ACL, pages 169--176, Berkeley, California.
8. International Journal For Research In Applied Science And Engineering Technology (IJRASET), Study of Hindi Word Sense Disambiguation Based on Hindi WorldNet, Preeti Yadav, Mohd. Shahid Husain ,Department of Computer Science, Lucknow, India
9. Banerjee, S., Pedersen, T.,(2002) "An adapted Lesk algorithm for word sense disambiguation using WordNet", In Proceedings of the Third International Conference on Intelligent Text Processing and Computational Linguistics, Mexico City, February.
10. Mishra, N., Yadav, S., Siddiqui, T.J. (2009). An Unsupervised Approach to Hindi Word Sense Disambiguation. Proceedings of the First International Conference on Intelligent Human Computer Interaction pp 327-335.
11. Goyal, D., Goyal, D. Singh, S. (2010). A Hybrid Approach to Word Sense Disambiguation. International Journal of Computer Science and Technology IJCST Vol. 1, Issue .
12. Broda, B., Mazur, W. (2010). Evaluation of Clustering Algorithms for Polish Word Sense Disambiguation. Proceedings of the International Multiconference on Computer Science and Information Technology.25–32.
13. Navigli, Lapata, M. (2010). An Experimental Study of Graph Connectivity for Unsupervised Word Sense Disambiguation. Roberto IEEE Transactions On Pattern Analysis And Machine Intelligence, VOL. 32.
14. Mihalcea et al., 2004] Mihalcea, R., Tarau, P., and Figa, E. (2004). Pagerank on semantic networks, with application to word sense disambiguation. In Proceedings of Coling 2004, pages 1126–1132, Geneva, Switzerland. COLING.
15. Pushpak Bhattacharyya. 2010.IndoWordNet.In the Proceedings of Lexical Resources Engineering Conference (LREC), Malta.
16. Roberto Navigli, "Word Sense Disambiguation: A survey," in ACM Comput. Surv. 41,2Article10,pages69,DOI=10.1145/1459352.1459355http://doi.acm.org/10.1145/1459532.145935 5, February 2009
17. Nirali Patel1, Bhargesh Patel, Rajiv Parikh, Brijesh Bhatt, "A Survey: Word Sense Disambiguation", International Journal of Advance Foundation and Research in Computer (IJAFRC), January 2015.

Authors:	**M. Usha, N. Nagadeepa**	
Paper Title:	**Hybrid Two Phase Page Ranking Algorithm for Ordering the Web Pages Based on Content and Usage Mining**	

Abstract: Many existing page ranking algorithms are used in web mining to display the result in search engine result page. But these existing algorithms are either based on the inlinks and outlinks of the page or content of the page. It never consider the user interest on the page to calculate the page rank of that particular page. This leads to a need of web page ranking algorithm concerning content and usage of the pages. Proposed algorithm focuses on title, Meta, H1 and paragraph tags to find the similarity of the page.Tag Analyzer Algorithm is used to analyze these tags' content. Besides, it considers how long the user stays in that page to compute user interest score. TPPR technique computes the score in two phases. Based on the output of TPPR algorithm, the URLs are sequenced and displayed to the user. Event Explore technique detects whether the user is idle or active on the page. The proposed algorithm produced better performance and displays the most relevant web pages in the top of the result. From the results, "Two Phase Page Ranking" (TPPR) algorithm is better than PR algorithm of taken data set. TPPR algorithm can be used in web mining to improve the ranking system of search engine.

4.

Keywords: Content Mining, Page Rank, TPPR, Usage Mining

17-22

References:

1. P.Sudhakar, G.Poonkuzhali, R.Kishore Kumar. Content Based Ranking for Search Engines. Proceedings of the International MultiConference of Engineers and Computer Scientists 2012 Vol I. IMECS 2012, March 14-16,2012, Hong Kong.
2. M. Shamiul Amin, Shaily Kabir, Rasel Kabir. A Score based Web Page Ranking Algorithm. International Journal of Computer Applications (0975 – 8887) Volume 110 – No. 12, January 2015
3. Jayendra singh Chouhan, Anand Gadwal. Improving Web Search User Query Relevance using Content Based Page Rank. IEEE International Conference on Computer, Communication and Control (IC4-2015).
4. Ankita Kusmakar and Sadhna Mishra. Web usage Mining: A Survey on Pattern Extraction from Web Logs. International Journal of Advanced Research in Computer Science and Software Engineering. Volume 3,Issue 9, September 2013.
5. V.Lakshmi Praba and T. Vasantha.Evaluation of Web Searching Method Using a Novel WPRR Algorithm for Two Different Case Studies. ICTACT Journal on Soft Computing, April 2012, Volume: 02, Issue: 03
6. Madhurdeep Kaur and Chanranjit Singh. A Hybrid Page Rank Algorithm : An Efficient Approach. Internation Journal of Computer Applications Volume 100-No 16.August 2014.
7. PAN EI SAN. Main Content Extraction from Dynamic Web Pages. International Journal of Advances in Electronics and Computer Science, ISSN: 2393-2835 Volume-2, Issue-3, March-2015.

8. Najlah Gali and Pasi Fränti. Content-based Title Extraction from Web Page. In Proceedings of the 12th International Conference on Web Information Systems and Technologies (WEBIST 2016) - Volume 2, pages 204-210.
9. R.Gunasundari and Dr.S.Karthikeyan. A Study Of Content Extraction From Web Pages Based On Links. International Journal of Data Mining & Knowledge Management Process (IJDKP) Vol.2, No.3, May 2012.
10. http://blog.exsilio.com/all/accuracy-precision-recall-f1-score-interpretation-of-performance-measures
11. N. V. Pardakhe, Prof. R. R. Keole. Analysis of Various Web Page Ranking Algorithms in Web Structure Mining. International Journal of Advanced Research in Computer and Communication EngineeringVol.2, Issue 12, December 2013

5.

Authors: **Salah AL- Dubai**

Paper Title: **Flood Frequency Analysis for Greater-Zab River**

Abstract: In this study, Flood Frequency Analysis at Greater-Zab was carried out using different distribution models such as Log-Normal type 3(LN3), Log-Pearson type 3(LP3) and Generalize Extreme value(GEV). The annual peak flow series of Zab River was used for this purpose. Using Kolmogorov and Anderson Darling tests, the fitness of the models was evaluated. Log-Normal Type 3 was found as the best model for estimation of floods (magnitude and return period for Greater-Zab River.

Keywords: Frequency Data Analysis, Greater-Zab, Annual flood series, Anderson Darling Test.

References:

1. McCuen, Richard H. (1941) Modeling Hydrologic Change, Statistical Method. Department of Civil Engineering University of Maryland, Lewis Publisher CRC Press LLC. (book 1)
2. McCuen, Richard H. (1993). Microcomputer Applications in Statistical Hydrology.Department of Civil Engineering University of Maryland, (PTR: Englewood Cliffs, New Jersey 07632)
3. Stephen,J, B., Dennis, P,L.,Courtney,L,B. (1975).Properties of the Three-Parameter Log Normal Probability Distribution. Departmentof Civil Engineering,Universityof Washington. Water Resources Res, Vol 11(2).
4. Sangal, B., P. and Asit, K., B. (1970). The3 -Parameter Lognormal Distribution and itsApplication in Hydrology. Inland Waters Branch and Policy and Planning Branch Department of Energy, Mines and Resources. Water Resources Res, Vol 6(2).
5. Todorovic, P., Rousselle, J. (1971). Some Problems of Flood Analysis.EngineeringResearchCenter, ColoradoState University. Water Resources Res, Vol 7(5).
6. J. R. M. Hosking, J. R. Wallis and E. F. Wood (1985). Estimation of the Generalizederalized Extreme- Value Distribution by the Method of Probability-Weighted Moments. Technometrics, VOL. 27, NO. 3
7. Danandeh Mehr, A. and Kahya, E. (2017). Climate change impacts on catchment-scale extreme rainfall variability: Case Study of Rize Province, Turkey. Journal of Hydrologic Engineering, 22(3), 05016037, 10.1061/(ASCE)HE.1943-5584.0001477.
8. Danandeh Mehr, A. and Demirel, M.C. (2016). On the calibration of multi-gene genetic programming to simulate low flows in the Moselle River. Uludağ University Journal of the Faculty of Engineering 21 (2), 365-376.
9. Al-Juboori, A.M., Guven, A., (2016). A stepwise model to predict monthly streamflow. J. Hydrol. 543, 283–292

23-26

6.

Authors: **Bahieh Rostam Afshar, Nune Petrosyan**

Paper Title: **Environment and Urban Sustainability**

Abstract: Urbanization is an increase in population of cities over time.This very rapid population growth, proved harmful effect to the city's survival. In this research, a new approach is introduced for evaluating urban sustainability by relating urbanization and urban planning in Tehran. This is based on the assumption that urban planning is a dynamic profession that works to improve the welfare of people and attractive places for present and future generations. Using this definition, Sustainability Index (SI), can be calculated as [1 - (Vu)], where Vu is Urbanization velocity. When SI is equal to 1, the urban development process is considered to be sustainable. Evaluation of the results indicate that Sustainability Index (SI) presents a more rational basis for evaluation of urban sustainability. Hence, the proposed model is an effective tool to help policy makers to understand whether the urban development process is sustainable or need to be corrected.

Keywords: Urban sustainability; urbanization; urban planning; sustainability index; urbanization velocity.

References:

1. Lewis Mumford, "The Natural History of Urbanization", (Chicago 1956). Retrieved July 30, 2007.
2. X. Zhang, Sustainable urbanization: A bi-dimensional matrix model. J. Clean. Prod. 2015, 134, 425–433.
3. L. Shen; Y. Peng; X. Zhang; Y. Wu, An alternative model for evaluating sustainable urbanization. Cities 2012, 29, 32–39.
4. T.B. Ramos; S. Caeiro, Meta-performance evaluation of sustainability indicators. Ecol. Indic. 2010, 10, 157–166.
5. L. Shen; L. Jiao; B. He; L. Li, Evaluation on the utility efficiency of metro infrastructure projects in China from sustainable development perspective. Int. J. Proj. Manag. 2015, 33, 528–536.
6. C. Weber; A. Puissant, Urbanization pressure and modeling of urban growth: Example of the Tunis Metropolitan Area. Remote Sens. Environ. 2003, 86, 341–352.
7. U. Weiland; A. Kindler; E. Banzhaf; A. Ebert; S. Reyes-Paecke, Indicators for sustainable land use management in Santiago de Chile. Ecol. Indic. 2011, 11, 1074–1083.
8. X. Zhang; Y. Wu; M. Skitmore; S. Jiang, Sustainable infrastructure projects in balancing urban-rural development: Towards the goal of efficiency and equity. J. Clean. Prod. 2014, 107, 445–454.
9. L. Shen; J. Zhou, Examining the effectiveness of indicators for guiding sustainable urbanization in China. Habitat Int. 2014, 44, 111–120.
10. T. Yigitcanlar; S. Teriman, Rethinking sustainable urban development: towards an integrated planning and development process. Int. J. Environ. Sci. Technol. 2015, 12, 341–352.
11. A.M. Dewan,Y. Yamaguchi, "M.Z. Dynamics of land use/cover changes and the analysis of landscape fragmentation in Dhaka Metropolitan", Bangladesh. GeoJournal 2012, pp.315–330.
12. J.O. Jensen, Sustainability profile for urban districts in Copenhagen. In Proceedings of the Sustainable Cities and Regions: Enabling Vision or Empty Talk? Örebro, Sweden, 11–13 March 2009.
13. B.S. Reddy, Balachandra, P. Benchmarking Urban Sustainability—A Composite Index for Mumbai and Bangalore; Indira Gandhi Institute of Development Research: Mumbai, India, 2013.
14. T. Byomkesh; N. Nakagoshi; A.M. Dewan, Urbanization and green space dynamics in Greater Dhaka, Bangladesh: Landsc. Eng., 2012.
15. Kennedy, C., Cuddihy, J. & Engel-Yan, J. (2007) The changing metabolism of cities [online]. Journal of Industrial Ecology. 11 (2), pp. 43–59. [Accessed 5 October 2014].
16. Global Urban Observatory United Nations Human Settlements Program (UN - Habitat),(1998), United Nations Publication, Version 2,

27-29

HS/637/01E, ISBN 92-1-131627-8.
17. United Nations. (2006). World Urbanization Prospects: 2005 Revision, New York, Population Division, Department of Economic and Social Affairs.

7.

Authors: **Nasser Rostam Afshar, Nurainin Mirhassan**

Paper Title: **Climate Change Impact on Water Resources in Baram Basin Malaysia**

Abstract: Climate change is undeniably has become a worldwide issue for the past few decades for its significant impact on water resources. Continuous growing water demand has pushed the natural water resource to the brink whereby the rivers in Sarawak are not spared. For the case of Baram basin, the long term impact of climate change on that regional scale is unapparent. Therefore, a detail study is needed for future back up plan and mitigation. This paper aims at presenting the findings on the rainfall pattern of Baram basin in conformity to the climate regime. By using Classical Multiplicative time-series modeling, data for the year 2005-2014 forecasted and the trend between hydrological parameters (temperature, evaporation and rainfall) and meteorological Parameters (evaporation, temperature, relative humidity, wind speed and cloud cover) is then discussed. From the historical time series trend of hydrological and meteorological data, it was observed that the rainfall trend has decreased within 10 years' time period (2005-2014) due to the change in climate regime. The forecast has predicted decrease in the rainfall trend throughout the future 30 years (2015-2044) and it gives a direct effect on the water resources in terms of its quantity and quality.

Keywords: Climate change, Rainfall pattern, Water resources, Forecast, Baram basin

30-34

References:

1. L Dahlman. (2014, 9). Climate Change, Global Temperature. Retrieved December 12, 2014,). Available: http://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature.
2. United Nations Framework, UNFCCC. (2007,9). Convention on Climate Change Impacts, Vulnerabilities and Adaptations in Developing Country. Available: http://unfccc.int/3582.php
3. Hua, T. M. 'Trends of Rainfall in Sarawak from 1999 to 2008". Proceeding of the International conference on Social Science Research, ICSSR, 2013, p.261.
4. Malaysian Meteorological Department Mariana Aida Ab. Kadir , (2015, 10), Available: http://www.met.gov.my/
5. Hsu, H. S., Guo, Y. L. Effect of Wind Speed on the Measurement of Rainfall, Meiho Institut of Technology, Neipu, Pingtung Hsien: 2005, pp.81-86.
6. Rostam Afshar, N. H. Fahmi. H. (2012, . Rainfall Forecasting Using Fourier Series. Journal of Civil Engineering & Architecture. 6(9), 1258-1262.
7. C.B. Beatrice. Nasser R. A. (2014, 11). Application of Mathematical Modelling in Rainfall Forecast A Case Study in Sungai Sarawak Basin. International Journal of Research in Engineering and Technology. 3 (11), 316-319.

8.

Authors: **Thanh Tan Nguyen Thi, Khanh Nguyen Trong**

Paper Title: **An Efficient Face Detection and Recognition**

Abstract: In this article, we propose a new method to effectively recognize faces from connected devices like real-time camera or webcam. The method contains two phases: Detecting and recognizing faces from the webcam frame. The face detection phase uses HOG features and SVM linear classifier. The second phase bases on FaceNet neural network model to automatically extract facial features and SVM classifiers. The experiments with UOF, FEI, JAFFE and LZW dataset is presented to show the efficiency of the proposed method. Experimental results show that the proposed method achieves high accuracy and stability on the test data sets collected from the actual environment.

Keywords: Face recognition, Real-time recognition, Frame based recognigition, Recognition deep neural network.

References:

1. Christian Szegedy, Wei Liu, Yangqing Jia, Pierre Sermanet, Scott Reed, Dragomir Anguelov, Dumitru Erhan, Vincent Vanhoucke, and Andrew Rabinovich. Going deeper with convolutions. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, pages 1–9, 2015.
2. Davis E King. Dlib-ml: A machine learning toolkit. The Journal of Machine Learning Research, 10:1755–1758, 2009.
3. Dong Yi, Zhen Lei, Shengcai Liao, and Stan Z Li. Learning face representation from scratch. arXiv preprint arXiv:1411.7923, 2014.
4. Fabian Pedregosa, Gael Varoquaux, Alexandre Gramfort, Vincent Michel, Bertrand Thirion, ¨Olivier Grisel, Mathieu Blondel, Peter Prettenhofer, Ron Weiss, Vincent Dubourg, et al. Scikit-learn: Machine learning in python. The Journal of Machine Learning Research,12:2825–2830, 2011.
5. Florian Schroff, Dmitry Kalenichenko, and James Philbin. Facenet: A unified embedding for face recognition and clustering. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, pages 815–823, 2015.
6. Gary B Huang, Manu Ramesh, Tamara Berg, and Erik Learned-Miller. Labeled faces in the wild: A database for studying face recognition in unconstrained environments. Technical report, Technical Report 07-49, University of Massachusetts, Amherst, 2007.
7. Hiyam Hatem, Zou Beiji,Raed Majeed, "A Survey of Feature Base Methods for Human Face Detection", International Journal of Control and Automation Vol.8, No.5 (2015), pp.61-78.
8. Hong-Wei Ng and Stefan Winkler. A data-driven approach to cleaning large face datasets. IEEE International Conference on Image Processing (ICIP), 265(265):530, 2014.
9. Hwai-Jung Hsu and Kuan-Ta Chen. Face recognition on drones: Issues and limitations. In Proceedings of the First Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use, DroNet '15, pages 39–44, New York, NY, USA, 2015. ACM.
10. Lawrence Sirovich and Michael Kirby. Low-dimensional procedure for the characterization of human faces. JOSA A, 4(3):519–524, 1987.
11. N. Dalal, B. Triggs, Histograms of Oriented Gradients for Human Detection. IEEEcComputer Society Conference on Computer Vision and Pattern Recognition, 2005.
12. Neeraj Kumar, Alexander C Berg, Peter N Belhumeur, and Shree K Nayar. Attribute and simile classifiers for face verification. In Computer Vision, 2009 IEEE 12th International Conference on, pages 365–372. IEEE, 2009.
13. Neeraj Singla, IISugandha Sharma, "Advanced Survey on Face Detection Techniques in Image Processing", International Journal of Advanced Research in Computer Science Technology (IJARCST 2014), vol. 2 Issue 1 Jan-March 2014.
14. Omkar M Parkhi, Andrea Vedaldi, and Andrew Zisserman. Deep face recognition. Proceedings of the British Machine Vision, 1(3):6, 2015.
15. Rabia Jafri and Hamid R Arabnia. A survey of face recognition techniques. JIPS, 5(2):41–68, 2009.
16. Steve Lawrence, C Lee Giles, Ah Chung Tsoi, and Andrew D Back. Face recognition: A convolutional neural-network approach. Neural Networks, IEEE Transactions on, 8(1):98–113, 1997.
17. Turk, M. and Pentland , A. 1991. Eigenfaces for recognition. J. Cogn. Neurosci. 3, 72–86.

35-39

18. Vahid Kazemi and Josephine Sullivan. One millisecond face alignment with an ensemble of regression trees. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, pages 1867–1874, 2014.
19. Viola, P. and Jones, M. 2001. Rapid object detection using a boosted cascade of simple features. In Proceedings, IEEE Conference on Computer Vision and Pattern Recognition.
20. Y. Sun, X. Wang, and X. Tang. Deeply learned face representations are sparse, selective, and robust. CoRR, abs/1412.1265, 2014. 1, 2, 5, 8.
21. Y. Taigman, M. Yang, M. Ranzato, and L. Wolf. Deepface: Closing the gap to human-level performance in face verification. In IEEE Conf. on CVPR, 2014. 1, 2, 5, 7, 8, 9.
22. Z. Zhu, P. Luo, X. Wang, and X. Tang. Recover canonicalview faces in the wild with deep neural networks. CoRR, abs/1404.3543, 2014. 2
23. http://opencv.org/
24. http://www.numpy.org/
25. http://scikit-learn.org/stable/
26. http://www.face-rec.org/databases/

9.

Authors: **Usha Rani Pisipaty, S. Balaji**

Paper Title: **Effect of Indian Gooseberry doping on Potassium Dihydrogen Phosphate Crystals (KDP)**

Abstract: Potassium dihydrogen phosphate (KDP) crystal is an interesting non linear optical inorganic material. In this present work, KDP crystal and Indian Gooseberry extract doped KDP crystal has been grown by slow evaporation aqueous solution growth technique. The grown crystals have been investigated through various techniques viz. Fourier Transform Infrared Spectroscopy has been used for spectral analysis of grown crystals. The grown crystal have been subjected to X-ray diffraction for structural analysis. Using Energy Dispersive X-ray Spectroscopy, presence of element with weight percentage has been calculated. Nonlinear optic measurement has been used to find the SHG efficiency. Increase in KDP crystal thermal stability by an organic additive of Indian Gooseberry extract has been determined by Thermo-Gravimetric Analysis (TGA) and Differential Thermal Analysis (DTA). Using Vicker's micro hardness test the mechanical property of KDP crystal and Indian Gooseberry extract doped KDP has been studied.

Keywords: KDP-Potassium Dihydrogen Phosphate, slow evaporation technique, organic impurity, NLO.

References:

1. Dmitriev, V.G., Gurzadyan, G.G. and Nicogosyan, D.N., Handbook of Nonlinear Optical Crystals, Spriger-Verlag, New York, (1999).
2. J.C. Brice, Crystal Growth Processes, Halsted Press, John Wiley and sons, New York (1986).
3. C.K. Mahadevan, phy.N.403(208) 3164-3167.
4. S. Gunasekaran and G.R. Ramkumar, Indian J. Phys. 83(11), 1549-1555 (2009).
5. Buckley,H.E.,Crystal growth,Newyork,John Wiley sons,Ins,London,chapman Hall. Ltd.(1951) pp.44.
6. International Union of Crystallography , Report of Executive Committeefor1991,Acta Cryst. A, 48(6),(1992) pp.922
7. Lindblad WJ, 'Considerations for Determining if a Natural Product Is an Effective Wound-Healing Agent', International Journal of Lower Extremity Wounds 7 (2), (2008) pp. 75–81.
8. Buckley, H.E., Crystal Growth, New York, John Willey sons, Inc, London, Chapman Hall Ltd., (1951) pp. 44.
9. S.Lin,The nonlinear optical characterstics 0f a LiB3O5 crystal,J.Appl.Phys.,67(2),(1990) pp.634.
10. Lalama S.J.Garito A.F.Origi of the nonlinear second order optical susceptibilities of organic system, Physical Review A,20(1997) pp1179.
11. Willard, H.H., Merrit, L.L., JR. J.A., Settle, JR. F.A., Instrument method of Analysis, Wadsworth Pub. Co.,(1986).
12. Rajesh P., Ramasamy P. Growth of dl-malic acid – doped ammonium dihy-drogen phosphate crystal and its characterization, Journal of crystal growth. 311(13), (2009) pp. 349.