2011 3rd International Conference on Awareness Science and Technology

(iCAST 2011)

Dalian, China
27-30 September 2011

IEEE

IEEE Catalog Number: CFP1150P-PRT
ISBN: 978-1-4577-0887-9

Table of Contents

Information Infrastructure for Innovative Product Design in SCM Using Semantic TRIZ……..…1
Incheon Paik1 Kyubo Kim1 Wonhee Park2 Ryohei Komiya1
1 University of Aizu
2 Akita Prefectural University Faculty of System Science and Technology

Dynamic Noise Reduction Algorithm Based on Time-variety Filter……...7
Zhe Chen Dan Shi Fuliang Yin

Research of air defense target assignment for warshipformation based on MAS……...11
Wang Lei1,2 Wang Wei2 Liu Zhengguo1 Qiu Chuchu2 Zhang Yuzhi2
1College of Marine Engineering Northwestern Polytechnical University
2 Dept. of Equipment System and Automation Dalian Naval Academy

A Situation Aware Framework for Activity Based Risk Analysis of Patient Monitoring System..15
S.Don 1, Eumin Choi 2, and Dugki Min1
1 School of Computer Science and Engineering, Konkuk University
2 School of Business IT, Kookmin University

A Novel Framework for Low-light Colour Image Enhancement and Denoising……20
Wenshuai Yin1 Xiangbo Lin1 Yi Sun1
1 School of Information and Communication Engineering Dalian University of Technology

A Snoring Detector for OSAHS Based on Patient's Individual Personality……24
Yuxia Zhao1 Haixiu Zhang1 Wenlong Liu1 Shuxue Ding2
1School of Information and Communication Engineering Dalian University of Technology
2School of Computer Science and Engineering The University of Aizu

Capon Beamformer for Acoustic Vector Sensor Arrays Using Biquaternions……28
Xiaoming Gou1 Yougen Xu1 Zhiwen Liu1 Xiaofeng Gong2
1School of Information and Electronics Beijing Institute of Technology
2School of Information and Communication Engineering Dalian University of Technology

HUMAN BODY SEGMENTATION IN A STATIC IMAGE WITH MULTISCALE SUPERPIXELS……32
Meng Yao1 Huchuan Lu1
1Dalian University of Technology Department of Electronic Engineering

A Sub-pixel Edge Detection Approach Based on Orthogonal Moment……...……36
Li Jianhua1 Yang Jinri1
1 School of Information & Communication Engineering School of Information & Communication Engineering Dalian University of Technology

Fast fixed-point algorithm for blind separation of nonlinear autocorrelation and non-Gaussian sources……40
Zhenwei Shi1 Xinya Zhai1 Zhenyu An1 Zhiguo Jiang1
1 Image Processing Center School of Astronautics Beihang University

An Improved Secure Communication Based on Random Phase Encoding Technique……...…46
WU Xu1 ZHANG Jingjing 1 GUO Xiaoxian1 QIU Tianshuang2
1 Information Science and Technology College Dalian Maritime University
2 School of Electronic and Information Engineering Dalian University of Technology

Electromagnetism-Like Algorithm without Local Search on PAPR Reduction for OFDM……51
Xu Yi1 Jin Ming-Lu1
1 Department of Electronics and Information Engineering Dalian University of Technology

FIESTO: An Ontology-based Method to Control Devices Using Natural Language……...…57
Peng Yu1 Yongping Xie1 Hajime Kishida2
1 School of Information and Communication Engineering Dalian University of Technology
2 Image & Media Lab Oki Data Corporation

Height Measurements of Moving People Based on Single Camera……...….63
Mingxin Jiang1,2 Fangshun Mu1 Hongyu Wang1
1 College of Electrical&Information Engineering Dalian University of Technology
2 College of Information & Communication EngineeringDalian Nationalities University

Kunming city mainline one-way green wave coordinated control technology……68
Wei Cheng1 Xuemin Li2 Pengcheng Du3
1 Faculty of Transportation Engineering Kunming University of Science and Technology
2 Traffic Police Division of Kunming Public Security Bureau
3 Department of Traffic Information Engineering and Control

Research on the traffic control and organization coordinate applications of reversible lanes…....72
Wei Cheng1 Xuemin Li2 Songnan Liu3
1 Faculty of Transportation Engineering Kunming University of Science and Technology
2 Traffic Police Division of Kunming Public Security Bureau
3 Department of Traffic Information Engineering and Control

Spatial Multiple Materials Detection in Hyperspectral Imagery……76
Zhenwei Shi 1 Zhen Qin1 Shuo Yang1 Zhiguo Jiang1
1 Image Processing Center School of Astronautics Beihang University

Information Recycling for Social Creativity……81
Yilang Wu1 Takanobu Watanabe2
1 Distributed Parallel Processing Laboratory the University of Aizu

2 University Business Innovation Center the University of Aizu

A Study on Broadcasting and Telecom Convergence Service Usage Index……...…89
Joungwon Yoo1 Hoontae Kim2 Yong Gu Ji3
1 National Information Society Agency Seoul
2 Daejin University Pocheon
3 Yonsei University Seoul

Optimizing and Modeling of Gas Scheduling System in Iron and Steel Enterprises……..……94
Bingzhi Gao1 Zhilei Wang1 Xiaoli Li 1 Yixin Yin1
1 Department of Automation Department of Automation University of Science and Technology Beijing

Joint POCS Method with Compressive Sensing Theory for Super-resolution Image Reconstruction……...……..99
Jiwei Liu1 Di Wu1
1 School of Automation and Electrical engineering University of Science and Technology Beijing

Development of a Polyclonal Antibody based Immunoassay for Detection of Molybdenum Levels in Environmental Water……..…103
Huaguo Huang1 Jinqing Jiang1 Haitang Zhang1 Ziliang Wang1 Xinpeng Li1
1 College of Animal Science

Modeling of yield strength for IF steel based on BP neural network……...……..…107
Wang Jin1 Qu Qiang1 Liu Yandong2
1 School of Electronic and Information Engineering University of Science and Technology LiaoNing
2 School of Materials and Metallurgical Engineering Northeastern University

An Analytical Performance and Power Model based on the Transition Probability for Hard Disks……...…111
Qiang Zou1
1 School of Computer & Information Science, Southwest University

Card User Authentication Based on Generalized Image Morphing……...……117
Qiangfu Zhao1 Cheng-Hsiung Hsieh2
1 Dept. of Computer and Information Systems The University of Aizu
2 Dept. of Computer Science and Information Engineering Chaoyang University of Technology

A Steering Kernel based Nonlocal-means Method for Image Denoising……..……123
Wenchao Jin1 Jinqing Qi1
1 School of Information and Communication Engineering Dalian University of Technology

Image Stabilization by Combining Gray-Scale Projection and Representative Point Matching

Algorithms…….128
Shuang Li1 Jinqing Qi1
1 School of Information and Communication Engineering Dalian University of Technology

3D-laser-based Visual Odometry for Autonomous Mobile Robot in Outdoor Environments……..…133
Yan Zhuang, Shengpeng Yang, Xiaotao Li, Wei Wang
1 Research Center of Information and Control Dalian University of Technology

Edge Aware Grey Image Enlargement…….…..……139
Cheng-Hsiung Hsieh1, Ching-Hua Liu1, Wei-Lung Hung1, and Qiangfu Zhao2
1Department of Computer Science and Information Engineering Chaoyang University of Technology
2 Graduate Department of Computer and Information Systems The University of Aizu

A Three-Stage Permutation Approach for Frequency-Domain Blind Source Separation……..…….…..…….145
Qian Wang, Ju Liu, Jun Du, Ning Lv, Zhaochen Liu, and Yujun Li
School of Information Science and Engineering, Shandong University

A Weighted ELRT-Based Robust Spectrum Sensing Algorithm……..……150
Junrong Gu1, Wenglong Liu2, Sung Jeen Jang1 and Jae Moung Kim1
1 School of Information and Telecommunication Engineering INHA University
2 School of Information and Communicaiton Engineering Dalian University of Technology

A Quantitative Analysis of Noncircularity for Complex-valued fMRI Based on Semi-blind ICA…….154
Jia-Chen Wang1 Qiu-Hua Lin1 Fengyu Cong2
1 School of Information and Communication Engineering Dalian University of Technology
2 Department of Mathematical Information Technology University of Jyväskylä

Robust Object Tracking by Adaptive Models Combination……..……160
Gang Yang1 Dong Wang1 Yutao Wang1 Zunyi Wang2
1 School of InformationScience and Engineering
2 Shenzhen branch of China Mobile Limited Company

Target Shift Awareness in Balanced Ensemble Learning……. 165
Yong Liu1
1 School of Computer Science and Engineering The University of Aizu

Classification network of tourism information A smart phone-based system for supporting “Petit Trips”…….…….….. 170
Chengjiu Yin1 Ito Eisuke1 Tetsuya Nakatoh1 Sachio Hirokawa1
1 Research Institute for Information Technology Kyushu University

Image Enhancement Method Based on Fuzzy Set and Subdivision……...…….. 174
Guo Xian Jiu, Jiang Feng Jiao, Li Xiang1
1 School of Information and Engineering Dalian Ocean University

Functional Coefficient Autoregressive Time Series Modeling Based on Fuzzy Inference Method……...…….. 177
Wen-Yan Song1 De-Gang Wang2
1 Department of Quantitative Economics Dongbei University of Finance and Economics
2 School of Electronic and Information Engineering Dalian University of Technology

Design of Embedded Wireless Network Camera……. 183
Mingwei Li1 Zhibo Li1
1 Faculty of Electronic Information and Electrical Engineering Dalian University of Technology

Data Model Conversion for Independent Component Analysis to Extract Brain Signals……187
Fengyu Cong, Tapani Ristaniemi
University of Jyväskylä, Finland

An Indoor Location Identification System Based on Neural Network and Genetic Algorithm…….……..……193
Yu-Shuang Lin, Rung-Ching Chen, Yu-Cheng Lin
Chaoyang University of Technology

Social Image Reranking with Diversity, Representative and Relevance……..…….199
Xueming Wang, Fuming Sun, Dongxia Wang
Liaoning University of Technology

An Optimized Overlay Multicast sub-tree rearrangement Algorithm…….....….205
Xiaoqiong Tan1, Ruimin Hu1, Zhaoping Wang2, Xuesong Cao2
1 Wuhan University
2 GuangDong Tisson Technologies Development Co.,Ltd

Three-phase High Voltage Power Supply Design for Electrostatic Precipitator Based on Phase Sequence Self-adaption and Redundant Spark Detection……..209
Zhuohan Li1, Cheng Shao1, Yi An1, Chengge Sun2, Youwen Lin3, Xiaofang Wang1
1 Dalian University of Technology
2 Dalian Jiahe Industrial Control Committee for Electrostatic School of Control Science Technology Co., Ltd
3 Committee for Electrostatic School of Control Science Technology Co., Ltd Precipitator

Relation of Home Energy Consumption and Static Properties of Consumers……..…….....215
TAMANO Ken'iti and TSUJI Hiroshi

1 Osaka Prefecture University

Design of a 3D Localization Method for Searching Survivors after an Earthquake Based on WSN……..……..221
Junbo Wang, Zixue Cheng, Lei Jing, Taishi Yoshida
1 University of Aizu

Seamless Fusion of GPS-VT Service from Outdoor to Indoor Cameras…….…..……227
Hsien-Chou Liao and Ching-Min Lai
1 Chaoyang University of Technology

Design and Implementation of a Multiple-Touch System Based on Infrared Technology…….233
Li Mingwei, Liu Bintao
1 Dalian University of Technology

Image Inpainting Based on Energy Minimization……..…237
Zhanjiang Zhi, Yi Sun
1 Dalian University of Technology

Environmental Sound Recognition Using Time-Frequency Intersection Patterns……....243
Xuan Guo1, Yoshiyuki Toyoda1, Huankang Li2, Jie Huang1, Shuxue Ding1, Yong Liu1
1 The University of Aizu
2 Shanghai Jiaotong University

Mining gene expression regulatory network using independent component analysis…..……..247
Wei Kong1, Xiaoyang Mou2
1 Shanghai Maritime University
2 DNJ Pharma and Rowan University

Distributed Compressed Sensing for Biomedical signals……..252
Qun Wang, ZhiWen Liu
1 Beijing Institute of Technology

Cooperative Air-defense System of System Model Based on Immune Multi-agent for Surface Warship Formation ……...……256
Jun Wang ,Xiao-zhe Zhao ,Yin-han Zhang ,Bu-yun Wang
1 School of Electronic & Information Northwestern Polytechnical University Xi'an
2 Dept of Equipment Automation Dalian Naval Academy Dalian

Blind Source Separation Based on Variable Step Length Natural Gradient Algorithm ……..…261
Ji Ce,Tang Baocheng,Wang Jinyu
College of Information Science and Engineering, Northeastern University, Shenyang

Minimal and optimal subsites set of HIV-1 protease cleavage site based on rough set ……..…265
Hui Liu ,Xiang Liu ,Kuo-Chen Chou
Department of Biomedical Engineer Dalian University of Technology Dalian

Multi-Layered Learner Knowledge Model for Evaluative Multi-Agent Simulation ……270
Kiyota Hashimoto ,Kazuhiro Takeuchi
1 School of Humanities and Social Sciences Osaka Prefecture University Sakai, Japan
2 Faculty of Information and Communication Engineering Osaka Electro-Communication University Neyagawa, Japan

Development of Perceptual Functions as Primitive Awareness for VDT Work Environment……...……276
Yusuke Manabe, Ryosuke Yuzawa, Naoki Kondo ,Kenji Sugawara
Department of Information and Network Science Chiba Institute of Technology Narashino-shi, CHIBA 275-0016 JAPAN

Mixing Matrix Estimation Based on Single-Source Point Identification and Improved Clustering Method ……..…282
Dongyan Zhu ,Xiaohong Ma
Information and Communication Engineering Institute Dalian University of Technology

Detection of Audio Interpolation Based on Singula Value Decomposition ……..……287
Qian Shi ,Xiaohong Ma
Information and Communication Engineering Institute Dalian University of Technology

A Stable ICA Algorithm Based on Exponent Density and Gaussian Parametric Density Mixture Models……291
Kefeng Wang ,Xu Xu
School of Mathematical Science Dalian University of Technology Dalian

Relation to Connectivity and Covered Area in Dynamic Plan Covering by Swarm Robots……297
Tatsuya Sato, Keitaro Naruse
Dept. of Comp. Sci. and Eng., Univ. of Aizu

Robustness of Semi-Passive Dynamic Walking Models for Steep Slopes……303
Kazuma Suzuki and Keitaro Naruse
University of Aizu

A Broadband Beamforming for Speech Enhancement in the Reverberant Environment……..…309
Dongxia Wang ,Yue Ding ,Fang Liu
School of Electronic and Information Engineering Liaoning University of Technology Jinzhou China

Transplantation of μC/OS-II to C8051F410 and Its Application in a Photoelectric Detection System ……...…314
Zhang Xiaodong ,Li Xiaoli
1 School of Automation Shenyang Aerospace University Shenyang
2 School of Information and Engineering University of Science and Technology Beijing

An Efficient Context-Aware Character Input Algorithm for Mobile Phone Based on Artificial Neural Network……...……...…318
Masafumi Matsuhara1 Satoshi Suzuki2
1Department of Software and Information Science, Iwate Prefectural University
2System Consultant Co.,Ltd.

Aware Computing Guided by Lmd Expression and Direct Knowledge in Spatial Language Understanding ……..……..323
Masao Yokota1
1Department of System Management Fukuoka Institute of Technology

Component Search Engine using Tree-View Interface for Tourist Blogs ……...…..……331
Jun Zeng1,Sachio Hirokawa2
1Graduate School of Information Science, Kyushu University
2Research Institute for Information Technology, Kyushu University

Investigation of Photoacoustic imaging for monitoring of Wound Healing under a Layer of Blood with Different Coagulation……..……..336
Chul-Gyu Song, Keo-Sik Kim, Min-Ho Kim, Sang-Hun Ryu

Case-based reasoning system based on Bayesian rough set and hierarchical mixture of experts model……...……...……339
LI Yang,HAN Min1
1School of Electronic and Information Engineering, Dalian University of Technology

BFSM: Finite State Machine Learned as Name Boundary Definer for Bio Named Entity Recognition ……..…….344
Tsendsuren Munkhdalai1, Meijing Li1, Erdenetuya Namsrai1, Oyun-Erdene Namsrai2, Keun Ho Ryu1
1Database/Bioinformatics Laboratory, Chungbuk National University
2School of Information Technology, National University of Mongolia

A Novel Approach to Mining Access Patterns…….....……350
Xiuming Yu1, Meijing Li1, Hyeongsoo Kim1, Dong Gyu Lee1, Jeong Seok Park2 , Keun Ho Ryu1
1Database / Bioinformatics Laboratory, Chungbuk National University
2Medical Informatics · Engineering, Chungju National University

Device Free Localization with Wireless Sensor Networks Based on Particle Filter…….356
Jie Wang, Xiaoyun Zhang, Qinghua Gao, Hongyu Wang, Minglu Jin1
1Schoolof Electronics and Information Engineering, Dalian University of Technology

Security-Aware VLSI Design for Speaker Identification Based on Efficient SMO Architecture……362
Jhing-Fa Wang 1, Jr-Shiang Peng1, Po-Chuan Lin2, Bo-Wei Chen1,Nai-Sheng Shihi1
1Department of Electrical Engineering, National Cheng Kung University
2Department of Electronics Engineering and Computer Science, Tung Fang Design University

An Improvement of Chip Design for Auditory Source Localization Awareness…….....…366
Jhing-Fa Wang 1,Chih-Hung Chou1,Ying-Jia Huang1,Po-Chuan Lin2, Bo-Wei Chen1
1Department of Electrical Engineering National Cheng Kung University
2Department of Electronics Engineering and Computer Science, Tung-Fang Design University

All-Fiber Common-Path Fourier-Domain Optical Coherence Tomography moving 2-axis based on Active Surface Tracking Algorithm……...…370
C. G. Song1, K. S. Kim1, M. H. Kim1, S. H. Ryu1, J. H. Seo2, J. U. Kang3
1Div. of Electronics Eng.,Chonbuk Natl. Univ.
2Dept. of Rehabilitation Med., Chonbuk Natl. Univ
3Dept. of Electrical and Computer Engineering, Johns Hopkins Univ.

Awareness Promoting Learning Design of Sing-along Piano Playing–the role of annotated musical score and multimedia contents–…….376
Katsuko T. Nakahira1, Miki Akahane2, Yukiko Fukami3
1Nagaoka University of Technology
2Tokyo College of Music Tokyo
3Kyoto Women's University Kyoto

The Method of Android Application Speed up by using NDK……..……382
Ki-Cheol Son1，Prof. Jong-Yeol Lee1
1 Dept. of Electronic Engineering Jeonbuk National University

Android Programming Techniques for Improving Performance……...……386
Jae Kyu Lee1, Prof. Jong Yeol Lee1
1 Dept. of Electronic Engineering Jeonbuk National University

Use of mobile transceiving stations with two antennas to reduce the interference in radio communication networks……...……390
Dynich Andrei1, Professor Hongyu Wang1
1 School of Information and Communication Engineering Dalian University of Technology

Inducing Compact NNTrees Using Discriminant Rough Null Space Method……..……394
Kyohei Watarai1, Qiangfu Zhao1, Hirotomo Hayashi2

1 The University of Aizu
2 Dwango Company

Awareness Promoting Visualization of Biasedness of Discussion Progress of Microblogs
……400
Yasuyuki Hatoh1, Kazuhiro Takeuchi2, Kiyota Hashimoto3
1 Graduate School of Engineering Division of Information and Computer Sciences,Osaka Electro-Communication University
2 Osaka Electro-Communication University Department of Information and Communication Engineering Neyagawa
3 School of Humanities and Social Sciences Osaka Prefecture University

Classification of Malicious Web Code by Machine Learning……...……406
Ryohei Komiya1, Incheon Paik1, Masayuki Hisada2
1 University of Aizu
2 NSTLAB

Visualization of Tourism Information using WordNet…….....……412
Tetsuya Nakatoh, Chengjiu Yin,Hiroki Matsuura, Sachio Hirokawa1
1 Research Institute for Information Technology Kyushu University

Semi-automated Paper-registration System for Institutional Repository……...……418
Kensuke Baba, Nami Hoshiko, Eriko Kudo, Naomi Yoshimatsu, and Eisuke Ito1
1 Kyushu University

Information Disclosure Incentives in Tourism Information Systems……422
Koki Murakata1, Tokuro Matsuo1
1 Graduate School of Science and Engineering Yamagata University

An Asymmetric Watermarking Algorithm Based On Motion Velocity…...…….……428
Xiaoli Mi and Shijie Jia
School of Electronics and Information Engineering,Dalian Jiaotong University

Research on Hadoop-based Enterprise File Cloud Storage System..…..…..…..……..434
Da-Wei Zhang,Fu-Quan Sun,Xu Cheng and Chao Liu
Information Technology and Business Management Department Dalian Neusoft Institute of Information

Characteristics of Human Route Descriptions and their Improvement by Machine Landmark Extraction…..…..…..…..…..…..…..…..…..…..…..…..…..…..…..…...438
Yuki Murai Makoto Okada Kiyota Hashimoto
1, Department of Mathematics and Information Sciences
2, School of Humanities and Social Sciences Graduate School of Science, Osaka Prefecture University

Adaptive Pulse Template Method for Accurate Detection of Heart Beat from Pressure Signals Measured during Sleep…..…..…..…..…..…..…..…..…..…..…..……..444
Xin Zhu and Wenxi Chen Tetsu Nemoto and Kei-ichiro Kitamura
1, Biomedical Information Technology Lab The University of Aizu
2, Graduate School of Medical Science Kanazawa University

Development of a volume rendering system using 3D texture compression techniques on general-purpose personal computers…..……..……..……..……..……..……..…....448
Akio Doi, Hiroki Takahashi Taro Mawatari Sachio Mega
1, Advanced Visualization Laboratory Iwate Prefectural University
2, Faculty of Medicine Kyushu University
3, Department of CG JFP Corporation

FPGA Implementation of ICA Algorithm for Adaptive Noise Canceling…..…….....452
Handong Bai, Zhiguo Zhou*, Jing He, Zhiwen Liu
School of Information and Electronics Beijing Institute of Technology

Blind Source Separation and Visual Voice Activity Detection for Target Speech Extraction…..……..……..……..……..……..……..……..……..……..……...457
Qingju Liu and Wenwu Wang
Centre for Vision, Speech and Signal Processing University of Surrey

Research on model of population flow in the undeveloped city of China's……...…..461
Ting Yang; Tong Li; Weiling Su
1, Department of Management Science and Engineering, Dalian University
2, Management College Hangzhou Dianzi UniversityHangzhou

Tow Ship Interference Cancelling based on Blind Source Separation Algorithm…….465
Zhang Xinhua, Fan Wentao, Xia Zhijun, Kang Chunyu
Dept. Information & Communication Engineering Dalian Naval Academy

Design of environmental information monitoring system based on GPRS…..……...……..469
Wenchao Xu,Teng Fei,Yanxiang Geng,Fang Bai, Liyi Zhang
Information Engineering College Tianjin University of Commerce

Model Based Development of a Meta-Leraning Support System to Prompt Self-Awareness through Presenation for Meta-Learning…….473
Kazuhisa SETA1, Mitsuru Ikeda2
1, School of Sciences Osaka Prefecture University
2, School of Knowledge Science JAIST, Japan

Adaptive Fourth-Order Tensor Beamformer…..…..…..…..……...….....…..481
Xirui Zhang, Zhiwen Liu, Yougen Xu* Xiaofeng Gong

1, School of Information and Electronics Beijing Institute of Technology
2, School of Information and Communication Engineering Dalian University of Technology

Uncovering perceptual awareness of visual stimulus with adaptive multiscale entropy…….…. ..…...…..…….....…....…..…..…..…..…...….....…….485
Meng Hu Hualou Liang
School of Biomedical Engineering, Science & Health Systems Drexel University

Blind Source Separation Based on the Support Recovery of Pilot-Signals……...491
Quanhua Piao, Zunyi Tang, Shuxue Ding
Graduate School of Computer Science and Engineering. The University of Aizu Aizu-Wakamatsu City, Fukushima 965-8580, Japan

Cognitive Radio Systems: Overview and Challenges…….....497
Van Tam Nguyen1, Frederic Villain2 and Yann Le Guillou3
1Institut TELECOM, TELECOM ParisTech, LTCI CNRS UMR 5141, Paris, France
2 NXP, BL TV Front End, CAEN, France
3 Renesas Mobile Corporation, Rennes, France

IF-THEN in the Internet of Things……...…….503
Deze Zeng, Song Guo, Zixue Cheng, and Anh T. Pham
School of Computer Science and Engineering, The University of Aizu, Japan

Forecasting wind power generation patterns based on SOM clustering……508
Kyu Ik Kim1, Cheng Hao Jin1, Yang Koo Lee1, Kwang Deuk Kim2, and Keun Ho Ryu1
1Database/Bioinformatics Laboratory, Chungbuk National University, Cheongju, South Korea
2Dept. of Renewable Energy Research, Korea Institute of Energy Research, Deajeon, South Korea

Prediction of Wind Power Generation and Power Ramp Rate with Time Series Analysis……..…512
Mi Yeong Hwang1, Cheng Hao Jin1, Yang Koo Lee1, Kwang Deuk Kim2, Jung Hoon Shin3, Keun Ho Ryu1
1Database/Bioinformactics Laboratory, Chungbuk National University, Cheongju, South Korea
2Dept. of Renewable Energy Research, Korea Institute of Energy Research, Deajeon, South Korea
3Dept. of Software Engineering, Chonbuk National University, Jeonju, South Korea

Neural Correlates of Awareness in Brains and in Man-Made Devices……...516
Robert Kozma
Center for Large-Sale Integrated Optimization and Networks (CLION) FedEx Institute of Technology, Department of Mathematical Sciences University of Memphis, Memphis, TN 38152, USA

A Real-time Angle Aware Face Recognition System Based on Artificial Neural

Network…….....521
Hisateru Kato, Goutam Chakraborty, Naoya Ogata, Basabi Chakraborty

Text Mining of Bankruptcy Information using Formal Concept Analysis……527
Sachio Hirokawa1, Takahiro Baba2, Tetsuya Nakatoh1
1RIIT, Kyushu Univ, Japan
2Graduate School of ISEE Kyushu Univ, Japan

Orange Computing: Challenges and Opportunities for Awareness Science and Technology……..…533
Jhing-Fa Wang and Bo-Wei Chen
Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan

Towards a Full-duplex Emergency Alert Systembased on IPTV Platform……..……536
Truong Cong Thang1, Anh T. Pham1, Zixue Cheng1, Nam Pham Ngoc2
1Computer Engineering Division University of Aizu, Japan
2Department of Electronics and Computer Engineering Hanoi University of Science and Technology, Vietnam

A Method for Fault Diagnosis of Analog Circuit Based on Rough Set……..……..540
Zhang Li1, Sun Lijie1, Wu Lichun1, Li Ning2
1Information School Liaoning University Shenyang, China
2ZTE Corporation Shenzhen, China