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Preface

Computers are firmly rooted in nearly all areas of life today. In company life, documents and products are produced by using computers, communication is by e-mail, companies present their commodities and services on the Internet and copious amounts of data are stored in databases. Different application programs are required for all of these processes.

The 2011 International Conference on Applied Informatics and Communication (ICAIC 2011) held during August 20–21, 2011, in Xi'an, China, provided an excellent platform for scientists and engineers of different countries working in various fields to exchange the latest developments and foster world-wide cooperation in the field of applied informatics and communication. Hundreds of experts and scholars from different countries attended ICAIC 2011.

Being crucial for the development of applied informatics and communication, our conference encompasses numerous research topics and applications: from the core fields of information systems and software engineering, manufacturing and automation engineering, computer-based signal processing and image processing to Communications Technology and other related topics. All of the papers were peer-reviewed by selected experts and 451 were selected for the proceedings of ICAIC 2011. We believe that this book provides a valuable reference for researchers in related fields. The papers describe how efficient, user-friendly, secure and upgradeable information technology systems can be designed, built and meaningfully used and operated in practice.

ICAIC 2011 was organized by the Information Engineering Research Institute, USA, and the proceeding are published by Springer. The conference was held in Xi'an. Xi'an, located in central-northwest China, records the great changes of the country just like a living history book. Called Chang'an (meaning the eternal city) in ancient times, Xi'an is one of the birthplaces of the ancient Chinese civilization in the Yellow River Basin area. It is the eastern terminal of the Silk Road and the site of the famous Terracotta Warriors of the Qin Dynasty. More than 3,000 years of history, including over 1,100 years as the capital city of ancient dynasties, have endowed Xi'an with an amazing historical heritage.

We sincerely thank all the members of the ICAIC Organizing Committee, Academic Committee and Program Committee. Moreover, we also express our sincere appreciation to all the referees, staff and volunteers for their tremendous efforts. Finally, we would like to thank all the authors who have contributed to this volume.

We hope that readers will find lots of interesting and useful information in the proceedings.

June 2011

Dehuai Zeng
Jianwei Zhang
Jun Zhang

Table of Contents – Part IV

Neural Networks and Wireless Communication

Partitioning Algorithm for PON Network Design	1
<i>Weicheng Xiong, Chanle Wu, Libing Wu, Xiaojun Guo, Yibo Chen, and Ming Xie</i>	
Event Detection and Type Recognition Using Self-training	9
<i>Xiaofang Yang, Jinxiu Chen, and Ruqi Lin</i>	
Emergy Synthesis and Its Application on Water Efficiency of Water Ecological-Economic System	17
<i>Cuimei Lv and Minhua Ling</i>	
Macro Stress Testing with a Macroeconomic Credit Risk Model for China	25
<i>Yuan Fang-ying</i>	
Generation of 2D Conforming Voronoi Diagram in Complex Domain	32
<i>Qi Li, Haisheng Li, Qiang Cai, and Yuewu Liu</i>	
Research of Fault Alarm Correlation Analysis Based on Association Rules in Communication Network	40
<i>Jinfeng Li, Huaibin Wang, and Yuanchao Liu</i>	
A New Tracking-Telemetry-Control Method of LEO Satellites Based on Navigation Messages	49
<i>Jiancheng Li, Ganhua Li, and Dong Li</i>	
A Reflective Approach to Design Component-Based Distributed Real-Time Applications	57
<i>Jing Huang and Wei Zhang</i>	
Empirical Study on the Volatility Spillover Effect in “China Concept” Shares	66
<i>Danping Wu, Charlene Xie, and Xiaoling Hu</i>	
A Combination Prediction Model Based on SVM and Its Application in Grain Output	74
<i>Bu Hui and Liu Ran</i>	
Study on the Equipment Overhaul Management System Based on RFID	82
<i>Chen Le, Li Yuan, Shu Zhengping, Zhang Wei, and Qu Changzheng</i>	

Research on Simulation Method of Flight Safety for Civil Aircraft	90
<i>Wei Zhang, Hehe Yi, and Zhi Ma</i>	
Modeling Restricted Factor for Mobile Group Collaboration	98
<i>Weihong Wang, Yuhui Cao, and Lisheng Zhang</i>	
Design of Gearbox Fault Diagnosis System Using Empirical Mode Decomposition Algorithm and LabVIEW Software	107
<i>Ling Zhang</i>	
Integrity Authentication Scheme of Bluetooth Baseband Packet Header Based on Key Stream	113
<i>Shun Zhang, Liandong Liu, and Bin Yu</i>	
Analysis of the Photonic Crystal Filtering Properties for Exploring Photonic Crystal Filters	122
<i>Yafei Ren, Yubin Guo, Xiaochen Jin, Hongwei Guo, and Jiayu Huo</i>	
Soft Lattice Implication Algebras	128
<i>Yi Liu, Ya Qin, Xiaoyan Qin, and Yang Xu</i>	
Semantic Disambiguation in Automatic Semantic Annotation	135
<i>Xin Qi and Min Xiao</i>	
Cognitive Metaphor-Based Fuzzy Similarity Reasoning	143
<i>Chang Su, Changle Zhou, and Yijiang Chen</i>	
Progress in Research of Weak Signal	150
<i>Guoliang Shi and Chaoxia Chen</i>	
The Research on Definition of Multilevel Security Based on the Construction of Covert Channels	157
<i>Yong Huang and Xuezeng Pan</i>	
Research on the Properties of Axis Straightness Objective Function	163
<i>Ping Liu and Huiyi Miao</i>	
An Attitude Determination System Based on Adaptive Kalman Filter for Human Machine Interface	170
<i>Xiaoming Hu, Qin Li, Changyu He, and Yue Liu</i>	
Fuzzy Comprehensive Evaluation of Basic Frame for Deployable Truss Antenna	178
<i>Dake Tian, Rongqiang Liu, Zongquan Deng, and Hongwei Guo</i>	
Term Extraction Method Based on Mutual Information with Threshold Interval	186
<i>Yu Bin and Chen Shichao</i>	

The Site-Selection System for Land Consolidation Project Based on GIS and Computational Intelligence	195
<i>Changjiang Wang, Qian Wang, Jie Zhao, and Yinkang Zhou</i>	
Optimal Design of Structure and Control Parameters of Active Suspension Based on PID Control	204
<i>Shian Chen and Xiang Xiao</i>	
A Fiber Bragg Grating Vibration Interrogation System Based on a Cascaded Long-Period Fiber Grating	211
<i>Hongbo Zou, Dakai Liang, Jie Zeng, Kun Li, and Yifei Zhou</i>	
CA-2D-VLC Decoder for AVS in SOC Design	220
<i>Wei Liu, Xuejie Wang, and Yongen Chen</i>	
A Novel Personalized Recommendation for Intelligent Sharing of Network Resources	227
<i>Haiping Zhang, Lei Huang, Jianjun Zhou, Haifei Xu, and Yintian Liu</i>	
User-Oriented and Entropy Based Adaptable Web Service Selection in AmI	238
<i>Huiping Zhang, Yibin Hou, Zhangqin Huang, Qian Liu, and Liu Tang</i>	
A Diagnostic Method of Transformer Insulation Status with Abnormal Polarization Spectrum	246
<i>Xiubo Jiang, Luebin Fang, and Tao Zhang</i>	
Multi-channel LED Drive System Based on CAN Bus	253
<i>Helin Cui, Min Qi, and Yang Zhang</i>	
Coded Circuit for Trusted Computing: Towards Dynamic Integrity Measurement	259
<i>Wu Hao and Wu Guoqing</i>	
Game Model Based Register Allocation	268
<i>Chen Yong, He Yanxiang, Wu Wei, and Li Qing'an</i>	
Research and Improvement on SNR Estimation Algorithm in OFDM Used in Cable Channel	274
<i>Zhou Peng, Shi Guomei, Huang Qiuyuan, and Liu Tie</i>	
Evidential Risk Analysis Based on the Fuzzy Belief TOPSIS	282
<i>Jiang Jiang, Xuan Li, Yingwu Chen, and Debin Fang</i>	
Design and Implementation of WebGIS Based on .NET	291
<i>Xiaona Ju and Zhibo Chen</i>	
Experimental Research on Temperature Control of Ceramic Kiln Based on Rich-Oxygen and Pure-Oxygen	298
<i>Chen Jing, Zhu Huaibin, Yuan Youxin, Xiao Chun, Luo Aijun, and Wu Xue</i>	

A Downlink Adaptive Interference Coordination Algorithm of OFDMA	304
<i>Jing Li, Jian Chen, and Yonghong Kuo</i>	
Physical-Layer Network Coding in Wireless Multi Access Relay Channel	312
<i>Hanghong Yu and Jun Zhang</i>	
Improving Bayesian Network Structure Learning with Optimized Node Ordering	321
<i>Lisheng Yang and Qin Liao</i>	
Research on the Application-Oriented Pipeline Integrity Based on GIS	330
<i>Jian feng Chen and Wei he Huang</i>	
Parametric Robust Stability Analysis of a PID Controller for Variable Nozzle Turbocharger	337
<i>Enhua Wang, Hongguang Zhang, Boyuan Fan, and Minggao Ouyang</i>	
Cloud Computing: Hype or Vision	346
<i>Min Wu</i>	
A Discovery Mechanism of Web Services with Optimal Search Method	354
<i>Xinwei Xu, Gang Hu, and Shaoxiong Chen</i>	
Study of the Decision Method in Consumer Demand Based on the QFD of Rough Set	361
<i>Jianmin Xie, Xiaowo Tang, and Yunfei Shao</i>	
Saddle-Point Equilibrium of Bilinear Itô Stochastic Differential Games	368
<i>Xiaoqiu Gao, Chengke Zhang, and Huainian Zhu</i>	
Application Study of Precision Agriculture Based on Ontology in the Internet of Things Environment	374
<i>Zhang Min, Wang Bei, Gao Chunyuan, and Shuai Zhao qian</i>	
The Research Based on Multi-view Image Registration.....	381
<i>KaiXing Wu, Juan Hao, and ChunHua Wang</i>	
An OTP-Based Mechanism for Defending Application Layer DDoS Attacks	388
<i>Xi Ye, Wushao Wen, Yiru Ye, and Qin Cen</i>	
$(\in, \in \vee q)$ -Fuzzy Filters of Lattice Implication Algebras.....	397
<i>Peng Jiayin</i>	

BP Neural Network in Deformation Prediction for Cold Extrusion CAPP System	405
<i>Jingjing Wu, Jian Lan, and Lin Hua</i>	
A Study of Quantitative Model to the Teaching Quality Evaluation for Local Universities	415
<i>Li-xin Song, Xin-e Li, and Rui-Zhao</i>	
A Visual Saliency Model Based on Local Entropy	422
<i>Chuanxiang Li, Xianglin Meng, and Zhengzhi Wang</i>	
Mobile Agent-Based Resource Allocation with Market-Oriented Approach in Sensor Networks	430
<i>Yan Yujie, Ma Bitao, Wang Xuan, and Yang Zongyuan</i>	
A Sparse Algorithm of General Neural Network Model	437
<i>Gong Wei and Cai Li</i>	
Application Research of the Genetic Algorithm on the Intelligent Test Paper Composition of Examination Database	443
<i>Zhang Fang, Li Na, and Li Jinhui</i>	
Numerical Simulation for BF Hearth and Bottom Using Finite Difference Method	449
<i>Guo Hongwei, Fan Deqiu, Chang Jian, Su Buxin, and Zhang Jianliang</i>	
PAPR Characteristics Analysis of MC-CDMA System	456
<i>Li Ming</i>	
The Holonic Control for Cooperative Distributed Geographic Modeling System	463
<i>Hui Yang, Yong Qin, Hui Ci, Guonian Lu, and Yehua Sheng</i>	
A Reliability-Driven Web Services Selection Method	472
<i>Yan Gao, Bin Zhang, and Kang Zhang</i>	
Two Pairs of Operators in Degree Induced Covering Rough Set	483
<i>Zhang Tao, Chen Dingjun, Zhang Li, and Xie Mao</i>	
Fault Tolerant Control of a Truss Structure Using MR Dampers	489
<i>Linsheng Huo, Hongnan Li, and Gangbing Song</i>	
The Study and Application of Two Combined Forecast Models Used in the Three Gorges Reservoir Long-Term Runoff Forecast	497
<i>Juan Deng, Jianzhong Zhou, Xue Wang, and Jun Guo</i>	
Analysis of Topology Structure of Object-Oriented Software System Based on Complex Networks	505
<i>Zhang Haohua, Zhao Hai, Zhai Yuren, and Wu Lijuan</i>	

Computing and Image Processing

Research on Distributed Adjustment and Control System Based on DSP	513
<i>Ma liping and Zhang Weiguo</i>	
A Multi-agent Based Research about College Student's Self-service System of Career Planning	519
<i>Zhuang Wenpei</i>	
An Improved Cross-Domain Role-Based Authorization Management Model	526
<i>Jun Zheng, Yuan Tan, Qikun Zhang, Xin Sun, and Yichun Chen</i>	
A RBAC Model Based on Multi-granularities of Time Constraints	538
<i>Jun Zheng, Yuan Tan, Qikun Zhang, Chunxiao Gao, and Siyuan Wang</i>	
An Improved P&O MPPT Tracking Method for High-Dynamic Situation	550
<i>Fan Yuan Liang, Xu Li Zhong, Miao Yi Qun, and Lan Hong Jia</i>	
RCM-Fuzzy Model and Its Applications to Maintenance with Cost/Serviceability Optimization	555
<i>Lin Shaopei, Zheng Hong, Yan Jun, and Hu Hao</i>	
Moving Objects Detection Method Based on Dependencies between Wavelet Coefficients	567
<i>Xiaoming Zhao, Xiaoyuan Zhou, and Shengchun Yuan</i>	
One-Dimensional Arimoto Entropy Threshold Segmentation Method Based on Parameters Optimization	573
<i>Hong Zhang</i>	
Supply Chain's Function in Improving the Building Industry Innovation	582
<i>Yu Wenhui</i>	
An Improved Differential Evolution Algorithm for Mixed-Model Assembly Sequencing	588
<i>Huang Gang, Liu Shaolei, Li Jinhang, and Fang Bo</i>	
A Shortest Path Algorithm with Constraints in Networks	598
<i>Fanguo He and Kuobin Dai</i>	

Research on Data Display and Network Analysis Algorithm Based on Embedded GIS	605
<i>Gu Zhili and Hu Xiaogang</i>	
Adaptive Routing Algorithm for Mobile Ad Hoc Networks	613
<i>Yu Cunjiang, Li Guoxin, and Mu Baihua</i>	
A Novel Algorithm of Computing Similarity Degree between Chinese Articles Based on Tolerance Granular Computing Model	618
<i>Rao Fen, Li Xiangjun, Liu Tao, Qiu Taorong, and Tao Qiuping</i>	
Study on Color Classification of Apples Based on Pixel Transformation Method	627
<i>Hongshe Dang, Xiaoqing Yang, Jing Liu, and Xingliang Liu</i>	
An Embedded Agricultural Products Quality Detecting System Based on Image Vision	633
<i>Hongshe Dang, Jinguo Song, and Qin Guo</i>	
A Novel Fusion Algorithm for Multi-focus Image	641
<i>Wang Hongmei, Nie Cong, Li Yanjun, Zhang ke, and Chen Lihua</i>	
Design of Koji Making Disc Machine Control System in Soy Sauce	648
<i>Li Yufeng and Wang Chunling</i>	
Petri Net Based on Behavior of Token and Its Applications	656
<i>Na Zhang, Yanping Li, and Enhai Zhang</i>	
Web-Based Software Reliability Analysis and Measurement System	664
<i>Zhiyang Fang, Junfeng Wang, Dafu Liu, and Chundong She</i>	
A Study of Enterprise Green Supply Chain Management in Cyclic Economy Model	671
<i>Liu Jingjing and Zhang Yingchao</i>	
Research on Fault Diagnosis of Marine Diesel Engine Based on Integrated Similarity	678
<i>Yanyou Chai, Xiuyan Peng, Liufeng Xu, and Jiuyu Shi</i>	
Research of CBR Learning Strategies Based on Genetic Algorithm and BP Neural Network	686
<i>Xiaoping Li, HaiLong Tao, and Kangkang Yu</i>	
Rumor Spreading in Local-World Evolving Network	693
<i>Ping Li and Qingzhen Zhao</i>	

Application of Fuzzy Comprehensive Evaluation Method in the Equipment Supply Support Effectiveness Evaluation	700
<i>Xiang Zhao, Xinyur Li, and Qiangbin Yue</i>	
A Novel Real-Time Tracking Algorithm Based on Kernel Density Estimation	706
<i>Jia Jingping, Xia Hong, Yan Jiangyu, and Ju Yun</i>	
Author Index	715