

2010 Third International Symposium on Information Science and Engineering

(ISISE 2010)

**Shanghai, China
24 – 26 December 2010**



IEEE Catalog Number: CFP1050F-PRT
ISBN: 978-1-61284-428-2

Third International Symposium on Information Science and Engineering

ISISE 2010

Table of Contents

Message from the ISISE 2010 General Chairs.....	xvi
ISISE 2010 Committees.....	xvii
ISISE 2010 Reviewers.....	xx
Message from the 3rd International Workshop on Computer Science and Engineering Symposium Chair.....	xxiii
3rd International Workshop on Computer Science and Engineering Committees.....	xxiv

Regular Papers

An Empirical Study on Factors Influencing the Quality of Internet Banking Service	3
<i>Zheng Xiaoting and Dai Zhuo</i>	
Research on Methods to Fast Eliminate Singular Value in Irregular Initial Measured Displacement Serial	7
<i>Sha Ma and Bao Liang Jiang</i>	
Application of High Accuracy Data Acquisition in Power Plant	11
<i>Xiaohong Yang, Yaoliang Xu, Ning Yang, Lei Xia, and Wanjian Zhao</i>	
The Realization of the 1GHz Negative Logarithmic Function Based on the 0.35um AMS Technology	15
<i>Weihua Ruan</i>	
Credit Soft Budget Constraint and the Goal Difference	19
<i>Han-yun Lei and Shihua Wang</i>	
Research on Supply Chain Coordination Model of Green Remanufacturing with Outsourcing	24
<i>Cai Ming, Fan Tijun, Zhou Hong, and Xu Weixia</i>	

A Method for Exporting Relational Schema into Document Type Definition	30
<i>Li Zhou and Jue Wang</i>	
Research on Dynamic Index of Streamline Dynamic Successive Trees	33
<i>Lin Huo and Yinglu Tan</i>	
Study and Implementation of an Online Visual Design Tool for Web Pages	39
<i>Hua Huang, Yi-Lai Zhang, and Qi-Liang Shu</i>	
Ring Waterside Line Information Extraction Method of Mudflat in the Yangtze River Estuary	43
<i>Zhen Han and Yongfei Guo</i>	
Control of Clutch Engagement for AMT Based on Fuzzy Logic	47
<i>Jinyu Qu and Yirui Zhang</i>	
On the Random Disturbance Term and Parameter Estimation of C-D Production Function	51
<i>Wang Qi, Su Yingsheng, and Ji Pengfei</i>	
Trust Model of Software Behaviors Based on Check Point Risk Evaluation	54
<i>Junfeng Tian and Jianlei Feng</i>	
A Modified SPIHT Algorithm Based on Wavelet Coefficient Blocks for Robust Image Transmission over Noisy Channel	58
<i>Chundi Xiu and Hualiang Zhu</i>	
Concordance Measures of a Class of Two-Parameter with Cube Generalized FGM Copulas	62
<i>Fu-xia Xu and Yong-quan Dong</i>	
Statistic Model of the Spine in Three-Dimension Geometry	66
<i>Jun Dai, Bin Yu, and Ying Wang</i>	
Design and Application of IP Core in SoC Technology	71
<i>Xuemin Pang, Daojie Yu, Jianbing Li, and Yuhua Guo</i>	
Research on the Color Detection of LCD Instrument Panel Based on Machine Vision	75
<i>Duan Shao-ling and Dai Shu-guang</i>	
An Improved Word Similarity Algorithm Based on Semantic	78
<i>Dongsen Si, Cao Boyan, Zengzhi Li, and Gao Qiang</i>	
Partners Portfolio Decision-Making Model Based on the Fuzzy Evaluation and Polychromatic Sets	82
<i>Dongmei Liu, Weiping Fu, Wen Wang, and Chun Wei Lai</i>	
Discrimination for Non-performing Loans Recovery: A Method of Support Vector Machines Based on Wavelet Transform	88
<i>Ming He, Ning Liu, and Enjun Xia</i>	

Analysis on Incentive Mechanism of Human Resources Dispatching under Moral Hazard	93
<i>Yanli Yang and Xian Yu Wang</i>	
Application of Neural Network in Power System Inter-harmonic Detection	97
<i>Li Wang and Xiao-hua Wang</i>	
A Technology Based Benefit Analysis on Reuse of Vector Register for SIMD Vectorization Optimization	101
<i>Ming Yang, Yuan Yao, Shuai Wei, Yuanyuan Zhang, and Lei Huang</i>	
Enterprise Credit Rating Model Based on Fuzzy Clustering and Decision Tree	105
<i>Wu Hongxia, Liu Xueqin, and Liu Yanhui</i>	
A Novel OFDM Spreading System with Spatial Domain Processing and MMSE-MUD	109
<i>Xiaotao Feng, Yong Shang, and Bo Wu</i>	
Interference Suppression in a MLT Based Spread Spectrum System with Digital Beamforming	113
<i>Xiaotao Feng and Yong Shang</i>	
A Multiresolution Viewpoint Based Rendering for Large-scale Point Models	117
<i>Yan Jiang, Yingjuan Sun, and Yu Jiang</i>	
Research on Distribution of Sink Nodes in Wireless Sensor Network	122
<i>Haicheng Li</i>	
Rank Aggregation Performance Analysis for Borda and Local Search Algorithm	125
<i>Liu Yong and Wang Zulin</i>	
A Data Compression Method for Traffic Loop Detectors' Signals Based on Lifting Wavelet Transformation and Entropy Coding	129
<i>Xiao-fa Shi and Lin-lin Liang</i>	
A Fast Synthesis Approach for Diplexer with E-Plane T-Junction Design	133
<i>Duanwei Zhang, Yongjiu Zhao, Wei Liu, Wei Zhao, and Quan Sun</i>	
A New Efficient ID-Based Strong Designated Verifier Signature Scheme	137
<i>Shifeng Sun, Qiaoyan Wen, Zhengping Jin, and Hua Zhang</i>	
A Kind of Fog Visualization Methods in Three-Dimensional Geographic Information System	142
<i>Gan Jian-Hong and He Tong-Li</i>	
Development Trends of MIS Based on Cloud Computing Environment	145
<i>Qing Li and Chun Yang</i>	
Texture Image Segmentation Based on Gaussian Mixture Models and Gray Level Co-occurrence Matrix	149
<i>Jian Yu</i>	

Effect of Platform Attitude Stability on Image Quality of Spatially Modulated Imaging Fourier Transform Spectrometer	153
<i>Juanjuan Jing, Ruyi Wei, and Yan Yuan</i>	
Review on Performance of Construction Project Manager	157
<i>Hui Cao, Jiye Xiang, and Jing Lu</i>	
Income Gap of Residents, Peasant Income and Economic Growth: An Empirical Study of Rural China Data	160
<i>Han Jian-yu, Ding Jie-chao, and Wang Jun</i>	
Study on Critical Path Method with Fixed Time Parameter in Network Planning Technology	166
<i>Ma Jun-jie and Qi Jian-xun</i>	
One Improvement Algorithm of Solving Time-Cost Tradeoff Problem	171
<i>Sun De-dong and Qi Jian-xun</i>	
Correction Calculation Model of Curve's Interval Fractal Dimension	175
<i>Bin Li, Yonglong Xu, Jinhui Zhang, Wenmin Wang, Fangfang Yan, Chao Yang, Xiaofei Chen, and Mingxia Xu</i>	
Supply Chain Coordination Based on the Information Asymmetry and Virtual Third Party	179
<i>Hong Cheng, Hongmei Guo, and Xianyu Wang</i>	
Quasi-affine Transform over Limited Integer Grids and Its Application	184
<i>Guibin Zhu, Bin Lei, Peng Quan, and Jiu Zhi Ye</i>	
Index Tracking Method Based on the Bootstrap Simulation Technology and Its Empirical Study	188
<i>Li Jianfu and Zhou Shuna</i>	
Negotiation Model Based on Artificial Intelligence in the E-Commerce	193
<i>Shaobin Dong and Aihua Li</i>	
Image Information Hiding Based on CGH of Phase-Only Interference Holography	197
<i>Da-Qing Chen, Ji-Hua Gu, and Zhi Tao</i>	
Direct Manipulation of 3D Mesh Deformation	202
<i>Shungang Hua, Qing Zhong, and Qiuxin Jiang</i>	
Design of Tomato Color Sorting Multi-channel Real-Time Data Acquisition and Processing System Based on FPGA	207
<i>Zhang Ruoyu, Kan Za, and Jiang Yinlan</i>	
Towards a Formal Behavioral Semantics for UML Interactions	213
<i>Li Dan and Li Danning</i>	
Design and Implementation of LDPC Codec for Aircraft Control and Simulation	219
<i>Jinqing Qi, Jingbin Zhang, Xiaohong Ma, Yi Sun, and Yan Yu</i>	

Analysis on Customer Satisfactory Rate of University Canteen Based on Fuzzy Comprehensive Evaluation and K-Means Arithmetic	224
<i>Jingying Ou, Ting Fang, and Shouhua Yu</i>	
Research on Segmentation in Deleting Repeat Questions	228
<i>Xueli Ren and Yubiao Dai</i>	
Proactive Stealthiness for Wireless Sensor Networks	232
<i>Wenzhe Zhang, Yihuai Wang, Ying Li, and Minglu Li</i>	
A Content-Based Relevance Feedback Model for Product Review Retrieval	236
<i>Tian Weixin, Zheng Sheng, and Wang Anhui</i>	
Blind Experiment Based on Dynamic Approximate Entropy Measure for Quasi-brain-death EEG	240
<i>Qiwei Shi, Yunchao Yin, Shilei Cui, Yinan Zhou, Huili Zhu, Jianting Cao, and Rubin Wang</i>	
A Method to Measure the Discriminability of Spatial Cues	244
<i>Heng Wang, Ruimin Hu, Weiping Tu, Qi Chen, and Jinfeng Liu</i>	
Combined Goal Recursion Strategy and Visual Perception Strategy on Human Problem Solving and Cognitive System Simulation	247
<i>Rifeng Wang</i>	
Power Control Algorithm of Internet-of-Things Node Based on Vague Set	251
<i>Qu Liguo, Chai Jingkun, Huang Yourui, and Tian Yiming</i>	
Fault Diagnosis for Reciprocating Air Compressor Valve Using P-V Indicator Diagram and SVM	255
<i>Fengtao Wang, Lutao Song, Liang Zhang, and Haifeng Li</i>	
Multihomed Multicasting by Overlay Proxies	259
<i>Xiao Chen and Nianzu Liu</i>	
MIP-Guided Blood Vessel Segmentation Using SEM Statistical Mixture Model	263
<i>Shifeng Zhao, Mingquan Zhou, and Feng Xu</i>	
Bidirectional Quantum Secure Communication Based on Cluster State	267
<i>Wang Dong, Chai Xu-Chao, Zha Xin-Wei, and Ni Min</i>	
Overlay Construction within Diffserv Domains for QoS-Aware Multicasting	271
<i>Chen Xiao and Liu Nianzu</i>	
Performance on SK-Coverage in WSN of the Forest Detection	275
<i>Xu Guizhou, Zhang Lei, and Hu Yi-hua</i>	
Research of MTS Method Based on Vague Set	279
<i>Kuipeng Chao</i>	
The Design and Implementation of Process Definition Tool	283
<i>Liu Qiang</i>	

The Research of Emotion Space and Its Migration Mechanisms on the Comprehensive Information Emotional Theory	287
<i>Jiang Pu</i>	
On Boolean Index Sets of $C_n \times P_3(n=0,1,2(\text{mod}6))$	291
<i>Yu-ge Zheng, Ying Wang, C. Adiga, and A.S. Shrikanth</i>	
Fuzzy Decision Analysis of the Software Configuration Management Tools Selection	295
<i>Yongchang Ren, Qiang Quan, Tao Xing, and Xiaoji Chen</i>	
The Characteristic of Phenomenon-Fractal in Enterprise Business	298
<i>Zeng Xiangliang, Fang Wenjie, Zhou Chang, Liu Zhong, and Zhang Fajun</i>	
RFID Integration Re-engineering of Supply Chain	302
<i>Zhang Yu Hua, Wu Ke, and Zhang Jian</i>	
An Improved Static Constraint RBAC Model	306
<i>Xuexiong Yan, Qingxian Wang, Qiang Wei, and Junhu Zhu</i>	
3D Digital Basin in Hydraulic Education	310
<i>Jian Ou</i>	
Design and Implementation of a Performance Monitoring Tool for Clustered Streaming Media Server Systems	314
<i>Xiaoying Wang, Xiaojing Liu, Hui Xie, Zhihui Du, and Li Jin</i>	
A Method of Online Writeprint Identification Based on Principal Component Analysis	319
<i>Sanya Liu, Zhi Liu, Jianwen Sun, and Lin Liu</i>	
Laser Spot Center Detection Based on the Geometric Feature	322
<i>Yin-tao Shi and Xiao-jun Cheng</i>	
Combined Use of Double Weather Radar in Weather Modification	326
<i>Zhong Huang and Yan Liu</i>	
A Novel Blind Equalization Algorithm for QPSK Signals	331
<i>Wang Lin and Liu Shun-lan</i>	
Cost Allocation of Jointly-Managed Inventory Based on Cooperative Game and Data Envelopment Analysis	336
<i>Ning Wang, Cheng Liu, Guangshuo Hu, and Xinzhong Bao</i>	
An Ontology-Based Translation Memory Model in Localization Translation	340
<i>Yazhi Yao</i>	
The Neural Network PID Controller for Cement Rotary Kiln Temperature Based on FPGA	345
<i>Yaohua Guo, Junshuang Ma, and Minglin Yao</i>	
Evaluating and Sequencing of the Air Target Threat Based on Dempster-Shafer Evidence Theory	349
<i>Wen Jiang and Yong Deng</i>	

The Tuning of Fractional Order PI[math>\lambdaD[math>\mu] Controller Parameters Based on Immune Clone Selection Algorithm	354
<i>Tian Xiao-min and Huang You-rui</i>	
Analysis of Fault Diagnosis Based on One Advanced Discernibility Function Reduction Algorithm	358
<i>Guang-yi Zhang, Yan-qin Su, and Shan Gao</i>	
Research on Evaluation Regional Sand Liquefaction Based on GIS	362
<i>Huang Zhiquan and Sha Ma</i>	
Transient Response Measurement System of Ultrasonic Motors	366
<i>Wu Shaolong and Zhang Xinxing</i>	
A FPGA and Zernike Moments Based Near-Field Laser Imaging Detector Multi-scale Real-Time Target Recognition Algorithm	370
<i>Li-feng Liu, Hui-min Ma, and Ming-quan Lu</i>	
Micro-capacitance Measurement Based on Phase-Sensitive Detection	375
<i>Ming-yan Liao, Ye Tian, and Ke-hua Wang</i>	
The Recognition of Linear Objects Based on Edge Detection and Skeleton Tracking	379
<i>Liu Qin and Jiao Jian</i>	
Research and Application on the Means of Transparent Texture Anti-aliasing	382
<i>Yubo Lv and Jianfeng Xu</i>	
The Semi-supervised Classification Method of LiDAR Data Integrating with Aerial Images	386
<i>Liang Zhong, Jianwei Wu, Xuan Tang, and Haiyan Guan</i>	
A Behavior-Based Dynamic Trust Model of Virtual Organization	391
<i>Cui Zhenzhen and Tang Wenzhong</i>	
Modeling for Random Inventory System Based on Monte Carlo Theory and Its Simulation	396
<i>Shufeng Jiao and Shaojie Du</i>	
Correlation Analyses among Ionosphere Disturbance, Ground Electric Field Variation and Thunderstorm Activity	400
<i>Wu Xiaoyong, Qiu Jianxia, Li Jinzhu, and Chen Yanyu</i>	
Mine Information System Based on 3D Geological Modeling	405
<i>Jinhu Hu and Na Wan</i>	
3D Geological Modeling Based on Boreholes Data and Application in Underground Engineering	409
<i>Jinhu Hu and Changxin Sun</i>	

Workshop Papers

Digital Image Scrambling Technology Based on Two Dimension Fibonacci Transformation and Its Periodicity	415
<i>Weigang Zou, Jiangyan Huang, and Caiying Zhou</i>	
Research and Application of Digital Image Hiding Based on Ellipse Curve	419
<i>Weigang Zou, Fangfang He, and Chaoquan Zhang</i>	
Study on the Mathematical Model Analysis of Computerized Self-Adaptive Test (CAT)	423
<i>Xie Kang</i>	
An Improved PSO-BP Network Model	426
<i>Jinxia Ren and Shuai Yang</i>	
Research and Implementation of Web-Online English Testing System	430
<i>Deng Xiaoyu and Li Yunhao</i>	
The Application of Improved DMC in Remote Networked Measure-Control System	434
<i>Hua-biao Yan, Lv-e Huang, and Zuo-shi Liu</i>	
The Simulation Design of MATLAB Applied to the Modem Technology of Digital Communication System	438
<i>Dong Yuting and Fan Lijun</i>	
<i>Schistosoma cercariae</i> Image Recognition Based on BP Neural Network	442
<i>Shenhai Yan, Xiantong Huang, and Yuhuan Chen</i>	
Chaos Attractor Compressing and Expanding in Chua Circuit Driven by Direct Current Voltage	446
<i>Weiqing Liu, Yin Guo, Min Lu, and Chaofei Liu</i>	
VFD Dot-Matrix Display Control Module GU160X32-800B and Its Application	451
<i>Li Xiaohua, Shunyong Zhou, and Wenling Xie</i>	
The Fault Diagnosis Based on Immune Neural Network	454
<i>Qiang Chen and Zhengjie Li</i>	
Information Decay in Building Predictive Models Using Temporal Data	458
<i>Mukwende Placide and Yu Lasheng</i>	
A Methodology Using Partial Swarm Optimization and Kriging to Ship Multidisciplinary Design Optimization	463
<i>Hesham Gorshy, Xuezheng Chu, Liang Gao, and Qingfu Sun</i>	
User Interest Model Create and Update in Personalized Search Engine	468
<i>Xiaofeng Xiong, Zhihui Zhou, and Guangxue Yue</i>	
A New Algorithm of Software Copyright Protection Based on Multi-scale Triangular Mapping	472
<i>Ning Huang, Xian-tong Huang, and Xian-wen He</i>	

Multi Agents Based for Humanistic Intelligent Class Scheduling System	476
<i>Dan Weili and Songmengqiu</i>	
Robust Image Segmentation Algorithm Based on Rough Sets and Fuzzy C-Means	481
<i>Zhang Chao-quan, Liu Jian-Sheng, and Zou Wei-Gang</i>	
Dynamic Information Management and Control Methods Based on Visual Simulation for Water-Power Engineering of Nanchang Bonded Logistics Park	485
<i>Zhijuan Deng and Shaojun Zhong</i>	
Model Design of Information Security Monitoring System of Nanchang Bonded Logistics Park	489
<i>Shaojun Zhong and Zhijuan Deng</i>	
Distributed Mining of Association Rules Based on Privacy-Preserved Method	494
<i>Hua-jin Wang, Chun-an Hu, and Jian-sheng Liu</i>	
An Improved Genetic & Ant Colony Optimization Algorithm for Travelling Salesman Problem	498
<i>Lanlan Kang and Wenliang Cao</i>	
A Truncate-FCM Algorithm for Dictionary Generation	503
<i>Shi-yu Li and Qie-gen Liu</i>	
An Algorithm for Solving Flexible Job Shop Scheduling Problems Based on Multi-objective Particle Swarm Optimization	507
<i>Nai-ping Hu and Wang Pei-li</i>	
The Application of the Fuzzy Neural Network Control in Elevator Intelligent Scheduling Simulation	512
<i>Yine Zhang, Yun Yi, and Jian Zhong</i>	
An Algorithm of Association Rules Mining Based on Restricted Conditional Probability Distribution	517
<i>Wenliang Cao, Xuanzi Hu, and Fasheng Liu</i>	
Traffic Video Segmentation and Key Frame Extraction Using Improved Global K-Means Clustering	521
<i>Yuanfeng Yang, Zhiming Cui, Jian Wu, Guangming Zhang, and Xuefeng Xian</i>	
NH ₄ ⁺ -N and NO ₃ ⁻ -N Space Trend Surface Analysis Based on MATLAB Software	526
<i>Yi-qun Kuang and Hao Peng</i>	
Preference-Based Privacy Protection Mechanism for the Internet of Things	531
<i>Hu Tao and Wang Peiran</i>	
Service Clustering Based on Profile and Process Similarity	535
<i>Ping Sun</i>	

Particle Gradient Multi-objective Evolutionary Algorithm Based on GPU with CUDA	540
<i>Xuezhi Yue, Zhijian Wu, and Kangshun Li</i>	
Overlay Multicast Routing Supported by IP Multicast Routers	545
<i>Chen Xiao and Liu Nianzu</i>	
Optimized Design Bézier Surfaces Interpolation Geodesics	550
<i>Yang Huogen and Zou Weigang</i>	
Novel Network Primitives for Overlay Multicasting	554
<i>Chen Xiao and Liu Nianzu</i>	
A Compiler for Group Key Exchange Protocol to Resist Insider Attack in Universally Composable Framework	559
<i>Liehuang Zhu and Hong Li</i>	
Differential Decoding of Low-Density Parity-Check Codes Based on Min Sum Algorithm	562
<i>Shizhang Peng, Zemao Zhao, and Jianrong Bao</i>	
One New Method to Solve Time-Cost Tradeoff Problem	567
<i>Sun Dedong and Qi Jian-xun</i>	
Sensitivity Analysis on Single Activity to Quantity of Other Activities in Engineering Project	572
<i>Ma Jun-jie and Qi Jian-xun</i>	
A Secure Encryption Protocol for Ad Hoc Networks	578
<i>Xiaoming Wang and Zhiwei Liao</i>	
Cognitive-Based Emotion Classifier of Chinese Vocabulary Design	582
<i>Rui Wang</i>	
RBC Image Segmentation Based on Shape Reconstruction and Multi-scale Surface Fitting	586
<i>Ruihu Wang, Brendan MacCane, and Bin Fang</i>	
Solving Vehicle Routing Problem Based on Improved Genetic Algorithm	590
<i>Zeng Yi</i>	
Research of Series CNC High Speed Endface Cylindrical Grinder	595
<i>Peng Xuange</i>	
Capacitive Micro-accelerometer PSPICE Simulation Model Research	599
<i>Long Kan and Luo Chao</i>	
Based on Web University Library Management System's Modeling Research	603
<i>Yuchun Wu, Xiaojian Long, and Xiujun Ouyang</i>	
Real-Time Corner Detection Algorithm Based on GPU	608
<i>XueYu Huang and QiFeng Wu</i>	

Attribute Reduction Algorithm and the Generation of Hybrid Decision Tree Based on Discernibility Matrix in Rough Set	611
<i>Yang Shuqing and Li Bo</i>	
Improved Pattern Matching Algorithm of BMHS	616
<i>Linquan Xie, Xiaoming Liu, and Guangxue Yue</i>	
Stream Cipher Generation Method Based on Particle Gradient Multi-objective Evolutionary Algorithm	620
<i>Liu Jianshen and Yin Baoyong</i>	
Improved Joint ICI Cancellation and Error Correction for OFDM System	624
<i>Zeeshan Sabir, Syed Abdul Rehman Yousaf, M. Inayatullah Babar, and M. Arif Wahla</i>	
A Four-Level Matching Model for Semantic Web Service Selection Based on QoS Ontology	630
<i>Guangjun Guo, Fei Yu, Zhigang Chen, and Dong Xie</i>	
Author Index	635