

Proceedings

2008 International Conference on Computational Intelligence and Security

December 13–17, 2008
Suzhou SIP, China



Los Alamitos, California
Washington • Tokyo



TABLE OF CONTENTS

PAPERS OF THE CIS 2008 CONFERENCE MACHINE LEARNING AND ALGORITHMS

Self-Tuning Semi-Supervised Spectral Clustering	1
<i>Chun Yang, Xiangrong Zhang, Licheng Jiao, Gaimei Wang</i>	
A Novel Example-Based Super-Resolution Approach Based on Patch Classification and the KPCA Prior Model	6
<i>Yu Hu, Tingzhi Shen, Kin Man Lam, Sanyuan Zhao</i>	
Modified Generalized Discriminant Analysis Using Orthogonalization in Feature Space and Difference Space	12
<i>Yunhui He</i>	
A Novel Algorithm for Solving Nonlinear Equations	16
<i>Wenli Xie, Zhezhaio Zeng</i>	
A Neural-Network Algorithm for Solving Nonlinear Equation Systems	20
<i>Guimei Li, Zhezhaio Zeng</i>	
Cooperation Controlled Competitive Learning Approach for Data Clustering	24
<i>Tao Li, Wen-jiang Pei, Shao-ping Wang, Yiu-ming Cheung</i>	
A Neural-Network Algorithm for the Simultaneous Inclusion of Polynomial Zeros	30
<i>Chuangxin Wang, Zhezhaio Zeng</i>	

NATURE-INSPIRED COMPUTING

Mobility Enhancement in Nanorobots by Using Particle Swarm Optimization Algorithm	35
<i>Khin Haymar Saw Hla, YoungSik Choi, Jong Sou Park</i>	
Performance Comparison of Nonlinear Dimensionality Reduction Methods for Image Data Using Different Distance Measures	41
<i>Mudasser Naseer, Shi-Yin Qin</i>	
Optimization for Multi-Resource Allocation and Leveling Based on a Self-Adaptive Ant Colony Algorithm	47
<i>Zhengjia Wu, Liping Zhang, Ying Wang, Kui Wang</i>	
An Efficient Deterministic Secure Quantum Communication Scheme with W State	52
<i>Wenjie Liu, Hanwu Chen, Tinghuai Ma, Wei Tian</i>	
Tabu Artificial Fish Swarm Algorithm Based Intelligent QoS Multicast Routing Algorithm	56
<i>Junwei Wang, Xingwei Wang, Min Huang</i>	
A Particle Swarm Optimization Algorithm with Logarithm Decreasing Inertia Weight and Chaos Mutation	61
<i>Gao Yue-lin, An Xiao-hui, Liu Jun-min</i>	

INTELLIGENT AND FUZZY SYSTEMS

Information Management System of Automobile Chassis Dynamometer Based on Multi Agent Web Serve	66
<i>Long Guo, Hongli Wang</i>	

Multi-Agent Model for Fatigue Control in Large Offshore Wind Farm	71
<i>Rongyong Zhao, Yongqing Su, Torben Knudsen, Thomas Bak, WenZhong Shen</i>	
Study on the Core Algorithm of Access Control System Based on Face Recognition.....	76
<i>Liyang Lang, Yue Hong</i>	
Object Tracking Based on Genetic Algorithm and Kalman Filter	80
<i>Huan Wang, Mingwu Ren, Jingyu Yang</i>	
Multi-Strategy to Improve Reading Comprehension.....	86
<i>Yongping Du, Ming He</i>	

DATA MINING AND KNOWLEDGE DISCOVERY

A New Feature Extraction Approach Based on Sentence Element Analysis	90
<i>Chuangxin Yang, Hong Peng, Jiabing Wang</i>	
Membership Functions Generation Based on Density Function.....	96
<i>Imen Derbel, Narjes Hachani, Habib Ounelli</i>	
An Algorithm for Spatial Outlier Detection Based on Delaunay Triangulation	102
<i>Min-qi Zheng, Chongcheng Chen, Jia-xiang Lin, Ming-hui Fan, Tamás Jansc6</i>	
Evolutionary Personal Information Partners	108
<i>Jingde Cheng</i>	
A Measurement and Modeling Study of P2P IPTV Applications.....	114
<i>Feng Liu, Zhitang Li</i>	

NEURAL NETWORKS AND DISTRIBUTED SYSTEMS

Discrete Fourier Transform Computation Using Neural Networks	120
<i>Rosemarie Velik</i>	
Robust Designs for Fingerprint Feature Extraction CNN with Von Neumann Neighborhood	124
<i>Hui Wang, LeQuan Min, JinZhu Liu</i>	
Local Stability Analysis of CNNs with Delay and Impulses	129
<i>Jianjun Wang, Zhonghua Li</i>	
Control of Time Varying Nonlinear System Based on RBFNN-DMC Algorithm.....	134
<i>Lou Haichuan, Dai Wenzhan, Su Jie</i>	
The Operations and Properties of Reproducibility of the Empty Marking.....	139
<i>JianHong Ye, ShiXin Sun, Wen Song, Lijie Wen</i>	

EVOLUTIONARY COMPUTATION

A GA-Based Approach on a Repair Logistics Network Design with M/M/s Model.....	145
<i>Gengui Zhou, Zhenyu Cao, Zhiqing Meng, Qi Xu</i>	
Multi-objective Evolutionary Algorithm Based on Dynamical Crossover and Mutation.....	150
<i>Hai-lin Liu, Xueqiang Li, Yuqing Chen</i>	
Joint Optimization of Age Replacement and Spare Ordering Policy Based on Genetic Algorithm	156
<i>Rongbing Hu, Chaoyuan Yue, Jun Xie</i>	

A Novel Multi-Objective Evolutionary Algorithm Based on External Dominated Clustering.....	162
<i>Lei Fan, Yuping Wang</i>	
One MOEA Uniformity Measurement Based on Generalized Spherical Transformation.....	168
<i>Xueqiang Li, Hai-lin Liu</i>	

PATTERN RECOGNITION

A Touching Pattern-Oriented Strategy for Handwritten Digits Segmentation.....	174
<i>Rui Ma, Yingnan Zhao, Yongquan Xia, Yunyang Yan</i>	
New H_{∞} Approach for Face Tracking.....	180
<i>Siew Wen Chin, Kah Phooi Seng, Li-Minn Ang</i>	
Automatic Detection and Tracking of Maneuverable Birds in Videos.....	185
<i>Xiao-yan Zhang, Xiao-juan Wu, Xin Zhou, Xiao-gang Wang, Yuan-yuan Zhang</i>	
An Effective Method for Mammograph Image Retrieval.....	190
<i>Junding Sun, Zhaosheng Zhang</i>	
Kernel Subspace LDA with Self-Constructed Mercer Kernel for Face Recognition.....	194
<i>Xuehui Xie, Wen-Sheng Chen, Bo Chen, Hui Liu</i>	
A New Method for Discriminative Model Combination in Speech Recognition.....	200
<i>Yahui Wu, Gang Liu, Jun Guo</i>	
Experimental Study of Discriminant Method with Application to Fault-Prone Module Detection.....	204
<i>Gege Guo, Ping Guo</i>	
Semi-Supervised Dimensionality Reduction with Pairwise Constraints Using Graph Embedding for Face Analysis.....	210
<i>Na Wang, Xia Li, Yingjie Cui</i>	
Face Feature Extraction Based on Uncorrelated Locality Information Projection.....	215
<i>Lin Kezheng, Wang Huixin, Lin Sheng</i>	
3-D Reconstruction from Medical Images with Improved GVF Snake Model.....	220
<i>Jinyong Cheng, Yihui Liu, Li Bai</i>	
Illumination Invariant using DT-CWT and EMD for Face Recognition.....	225
<i>Yuehui Sun</i>	

SUPPORT VECTOR MACHINES

Chattering-Free Support Vector Regression Sliding Mode Control.....	231
<i>Linsheng Li, Jianning Li</i>	
Weighted Margin Multi-Class Core Vector Machines.....	235
<i>Yuan Yuan, Bing Chen, Jiandong Wang, Liming Fang, Tao Xu</i>	
Posterior Probability Reconstruction for Multi-Class Support Vector Machines.....	240
<i>Xiaoh Wang</i>	
Modeling of Oil and Water Migration Based on Support Vector Machine.....	244
<i>Jingwen Tian, Qian Feng</i>	
Fast SVM Incremental Learning Based on the Convex Hulls Algorithm.....	249
<i>Chongming Wu, Xiaodan Wang, Dongying Bai, Hongda Zhang</i>	

INFORMATION AND DATA SECURITY

Gray S-Box for Advanced Encryption Standard	253
<i>Minh Triet Tran, Doan Khanh Bui, Anh Duc Duong</i>	
Research of WaveCluster Algorithm in Intrusion Detection System	259
<i>Mingwei Zhao, Yang Liu, Rongan Jiang</i>	
A Novel Generation Key Scheme Based on DNA	264
<i>Xin-she Li, Lei Zhang, Yu-pu Hu</i>	
On the k-error Linear Complexity of Sequences with Period p_n over $GF(q)$	267
<i>Jianqin Zhou, Cheng Shangguan</i>	
Analysis of Offline Fair Exchange Protocols in Strand Spaces	272
<i>Xiangdong Li, Qingpu Guo, Qingxian Wang</i>	
Image Encryption Algorithm Based on Rijndael S-boxes	277
<i>Jiping Niu</i>	
Dynamic Integrity Measurement Model Based on Trusted Computing	281
<i>Changping Liu, Mingyu Fan, Yong Feng, Guangwei Wang</i>	
Semi-Fragile Watermarking Based on Image Gradient	285
<i>Jun Xiao, Ying Wang</i>	
Counting Evolving Data Stream Based on Hierarchical Counting Bloom Filter	290
<i>Zhijian Yuan, Yingwen Chen, Yan Jia, Shuqiang Yang</i>	
Reversible Data Hiding for Electrocardiogram Signal Based on Wavelet Transforms	295
<i>Kai-mei Zheng, Xu Qian</i>	
Research of Multiple Watermarks Algorithm in E-Commerce Copyright Protection and Tracking	300
<i>Xiang-wei Zhu, Liang Xiao</i>	
Robust Hashing Based on Persistent Points for Video Copy Detection	305
<i>Yu-xin Zhao, Guang-jie Liu, Yue-wei Dai, Zhi-quan Wang</i>	

CRYPTOGRAPHY, CODING, SECURITY, AND KEY MANAGEMENT

Application of CLIPS Expert System to Malware Detection System	309
<i>Ruili Zhou, Jianfeng Pan, Xiaobin Tan, Hongsheng Xi</i>	
An Evaluation of API Calls Hooking Performance	315
<i>Mohd Fadzli Marhusin, Henry Larkin, Chris Lokan, David Cornforth</i>	
Exploring Malware Behaviors Based on Environment Constitution	320
<i>Puru Su, Lingyun Ying, Dengguo Feng</i>	
Chosen-Ciphertext Secure Multi-authority Fuzzy Identity-Based Key Encapsulation without ROM	326
<i>Liming Fang, Jiandong Wang, Yongjun Ren, Jinyue Xia, Shizhu Bian</i>	
Generating High Quality Pseudo Random Number Using Evolutionary Methods	331
<i>Alireza Poorghanad, Ali Sadr, Alireza Kashanipour</i>	
An Enhanced Deniable Authentication Protocol	336
<i>Li Gang, Xin Xiangjun, Li Wei</i>	
Sharing Multi-Secret Based on Circle Properties	340
<i>Lina Ge, Shaohua Tang</i>	

Research on Evaluation of Trust Model	345
<i>Mo Yang, Lina Wang, Yuandong Lei</i>	
A New Measure of Image Scrambling Degree Based on Grey Level Difference and Information Entropy	350
<i>Xiongjun Li</i>	
Research on Disaster Tolerance System Based on Network Dataflow	355
<i>Lin Guo, Hua Huang, Lejun Zhang, Yongtian Yang, Jianpei Zhang</i>	
A Novel Motion Based Lip Feature Extraction for Lip-Reading	361
<i>Meng Li, Yiu-ming Cheung</i>	
Visual Cryptographic Scheme with High Image Quality	366
<i>Lin Kezheng, Fan Bo, Zhao Hong</i>	
Modified BP Decoding Algorithms Combined with GA for Low-Density Parity Check Codes	371
<i>Zerong Deng, Xingcheng Liu, Man Teng</i>	
Improved BP Decoding Algorithm for Nonbinary LDPC Codes Based on Bit-flipping Method	376
<i>Man Teng, Xingcheng Liu, Zerong Deng</i>	
A Practical Electronic Voting Protocol Based upon Oblivious Signature Scheme	381
<i>Chunlai Song, Xinchun Yin, Yali Liu</i>	

STEGANOGRAPHY, WATERMARKING, AUTHENTICATION, AND AUTHORIZATION

An Efficient Audio Watermark Algorithm with Strong Robustness	385
<i>Tong Ming, Yan Tao, Hongbing Ji</i>	
Efficient ID-Based Proxy Blind Signature Schemes from Pairings	390
<i>Pan Heng, Ke Ke, Chunxiang Gu</i>	
Construction of a Dynamic Trust Ontology Model	394
<i>Qiuyu Zhang, Fengman Miao, Zhanting Yuan, Qikun Zhang, Zhi Fan</i>	
Cross-Domain Grid Authentication and Authorization Scheme Based on Trust Management and Delegation	399
<i>Sunan Shen, Shaohua Tang</i>	

NETWORK AND WIRELESS COMMUNICATION SECURITY

A Fast Suffix Matching Method in Network Processor	405
<i>ZhenYu Liu, ShengLi Xie, Yue Lai</i>	
A Near-Optimal Redundancy Allocation Strategy that Minimizes a System's Vulnerability to Hazardous Events and Malicious Attacks	411
<i>Frank Yeong-Sung Lin, Po-Hao Tsang, Kun-Dao Jiang</i>	
Towards Provably Secure On-Demand Distance Vector Routing in MANET	417
<i>Liqiang Mao, Jianfeng Ma</i>	
A Simulation Platform of DDoS Attack Based on Network Processor	421
<i>Xin-lei Li, Kang-feng Zheng, Yi-xian Yang</i>	
An Efficient Gradient Mechanism of Directed Diffusion in Wireless Sensor Network	427
<i>Jian Wan, Jianrong Wu, Xianghua Xu, Yanna Yan</i>	

Study on the Internet Behavior's Activity Oriented to Network Survivability	432
<i>Chi Guo, Lina Wang, Lai-nv Huang, Lei Zhao</i>	
A Secure Routing Scheme Based on Multi-Objective Optimization in Wireless Sensor Networks	436
<i>Xuanxia Yao, Xuefeng Zheng</i>	
Detecting the Sybil Attack Cooperatively in Wireless Sensor Networks.....	442
<i>Shaohe Lv, Xiaodong Wang, Xin Zhao, Xingming Zhou</i>	
An Improved Approach to Access Graph Generation.....	447
<i>Xiaochun Xiao, Tiange Zhang, Gendu Zhang</i>	

SECURITY MODELS AND APPLICATIONS

Security Scheme for Cross-Domain Grid: Integrating WS-Trust and Grid Security Mechanism	453
<i>Yongkai Cai, Shaohua Tang</i>	
Application of Radial Function Neural Network in Network Security	458
<i>Yi Niu, Yi Chun Peng</i>	
A New Intelligent Security Structure for Host System	464
<i>Jiali Hou, Nengshan Feng, Jinzhi Xiong</i>	
Blind Deconvolution Algorithm for MIMO Channel.....	470
<i>Min Zhao, Zhaoshui He, Shengli Xie</i>	
Using Genetic Algorithm to Improve Fuzzy k-NN	475
<i>Juan Zhang, Yi Niu, Wenbin He</i>	
Contours Location Based on Fisher Discrimination Analysis.....	480
<i>Weibin Zhao, Zhiheng Zhou</i>	
Application of Data Warehouse Technology in Data Center Design.....	484
<i>Xuanzi Hu, Kuanfu Wang</i>	
Neurodynamic Analysis for a Class of Nonlinear Fractional Programming	489
<i>Quanju Zhang, Jie Zhang, Junhong Feng, Yajuan Yang</i>	
Towards a Component-Based Model Integration Approach for Embedded Computer Control System	495
<i>Fang Li, Di Li, Jiafu Wan, Xin Huang</i>	

WEB AND MULTIMEDIA SECURITY

A Trust Evaluation Model for P2P E-Commerce Systems.....	500
<i>Cao Hui, Qin Zheng</i>	
Analysis of Signal Transmission with Temperature-Dependent Electrical Parameters Using FDTD.....	506
<i>Xiuhua Men, Shunming Li, Zemin Zuo</i>	
Controlling Mechanism for the Hubs in Peer-to-Peer Networks.....	511
<i>Yuhua Liu, Chun Yang, Kaihua Xu, Hongcai Chen</i>	
A Novel Complex Event Mining Network for RFID-Enable Supply Chain Information Security	516
<i>Tao Ku, YunLong Zhu, KunYuan Hu</i>	

The Impacts of Government Policies on the Efficiency of Australian Universities: A Multi-Period Data Envelopment Analysis	522
<i>Xiaoxia Duan, Hepu Deng, Brian Corbit</i>	
An Improved Alternating-Projection Demosaicing Algorithm	528
<i>Wei-jiang Wang, Ting-zhi Shen, Xue-mei Yan</i>	
A Run-Length Coding Based Dynamic Trust Model in P2P Network	534
<i>Qun Fang, Yi Ji, Guo-xin Wu</i>	

APPLICATIONS

A Study on the Application of GA-BP Neural Network in the Bridge Reliability Assessment	540
<i>Jianxi Yang, Jianting Zhou, Fan Wang</i>	
Some Notes on Blind Source Separation Using Generalized Eigenvalues.....	546
<i>Jie-Chang Wen, Chun-lan He</i>	
A Novel Multiple Description Video Coding Algorithm	550
<i>Mengmeng Zhang, Wenkai Liu, Ruobin Wang, Huihui Bai</i>	
Multiple Feature Fusion for Tracking of Moving Objects in Video Surveillance	554
<i>Huibin Wang, Chaoying Liu, Lizhong Xu, Min Tang, Xuewen Wu</i>	
Shape Constraint Incorporated Geometric Flows for Blood Vessels Segmentation	560
<i>Ju-tao Hao, Jing-jing Zhao</i>	

PAPERS OF THE CIS 2008 WORKSHOP MACHINE LEARNING AND ALGORITHMS

Chinese Named Entity Recognition with CRFs: Two Levels	564
<i>Hongping Hu, Hui Zhang</i>	
Content Semantic Similarity Boosted Collaborative Filtering.....	570
<i>Biyun Hu, Yiming Zhou</i>	
Expansion Complex Fast-ICA Algorithm Based on Complex Orthogonal Space.....	575
<i>Zhen-you Wang, Da-chang Guo</i>	
A Novel Blind Image Watermarking Scheme Based on Support Vector Machine in DCT Domain	579
<i>Fanman Meng, Hong Peng, Zheng Pei, Jun Wang</i>	
A New SVM Multi-Class Classification Method Based on Error-Correcting Code.....	584
<i>Zelong Wang, Fengxia Yan, Feng He, Jubo Zhu</i>	

NATURE-INSPIRED COMPUTING

cDNA Microarray Image Processing Using Spot Centroid of Intensity	588
<i>Guirong Weng, Yuehuan Wang, Jian Su</i>	
A Survey of Semi-Supervised Learning Methods.....	593
<i>Nitin Namdeo Pise, Parag Kulkarni</i>	
An Artificial Neural Network Based on CIEA	598
<i>Yong Chen, Xia Liu, Qi Huang, Chang-hua Zhang</i>	
An Improved Particle Swarm Optimization Using Particle Reliving Strategy.....	604
<i>Zhang Chun Feng, Zhao Hui</i>	

Particle Swarm Optimization Based on Number-Theoretical Net	607
<i>Liwei Tan</i>	
Convergence Property Analysis for PSO Based on Cluster-Degree	611
<i>Quansheng Dou, Ping Jiang, Zhijun Yu, Zhongzhi Shi</i>	
Applications of Particle Swarm Optimization and K-Nearest Neighbors to Emotion Recognition from Physiological Signals	615
<i>Defu Cheng, Guangyuan Liu, Yuhui Qiu</i>	
An Improved MCP SO with Center Communication	620
<i>Ben Niu, Li Li</i>	
A Fast Algorithm to Find Optimal Double-Loop Networks	625
<i>Xiaolin Wang, Zhenxu Bian, Pengfei Wang, Jianqin Zhou</i>	

INTELLIGENT AND FUZZY SYSTEMS

Learning through Decision Tree in Simulated Soccer Environment	631
<i>Fahimeh Farahnakian, Nasser Mozayani</i>	
Research on the Business Operation Model Based on Semantic Web Service and MAS	634
<i>Hao Xu, Lixin Shen, Xinlian Xie, Qinglian Wang, Yan Liu, Kejia Wang</i>	
Identification of Fuzzy Models Using Cartesian Genetic Programming	639
<i>Samaneh Yazdani, Mahdi Aliyari Shoorehdeli, Mohammad Teshnehlab</i>	
Hybrid Algorithm for Winner Determination Problem in Combinatorial Auctions	645
<i>Li Chen, Xiaoyun Chen, Shanli Hu, Yunguo Lin</i>	
Unstructured Decision-Making Model Base on Grey Fuzzy Number	650
<i>Xin-bo Zhang, Ying Lu</i>	
Research of Multi-Resource and Multi-Objective Emergency Scheduling Based on Fuzzy Ideal Point Method	654
<i>Feihu Hu, Zefei Geng, Huimin Chen, Linyan Sun</i>	
A Study on Urban Traffic Congestion Dynamic Predict Method Based on Advanced Fuzzy Clustering Model	659
<i>Yin Zhu, Junli Wang, Huapu Lu</i>	
A Hybrid Language Combining Business Rules with Object-Orientation	664
<i>Xiaojian Liu, Xuejun Liu, Jianxin Li</i>	
The Application of Intelligent Learning System Based on Network	670
<i>JunJie Zhang, WenBo Fang</i>	
Intelligent Control of the Linear Motor Direct Drive Feed System for CNC Machine Tools	674
<i>Shuhong Xiao, Guangyuan Zheng, Shuquan Chen</i>	

DATA MINING AND KNOWLEDGE DISCOVERY

An New Algorithm of Association Rule Mining	680
<i>Jun Gao</i>	
Clustering XML Documents Based on Data Type	685
<i>Chong Zhou, Yansheng Lu</i>	
Data Mining Approach for Ship Virtual Assembly Based on Rough Set Theory	691
<i>Cuiling Li, Rongyong Zhao, Yang Xiang, Shanlin Xu</i>	

Optimize Algorithm of Decision Tree Based on Rough Sets Hierarchical Attributes.....	696
<i>Yuan Zhang, Yue-jin Lv</i>	
Knowledge Reduction in Incomplete and Fuzzy Objective Information Systems.....	701
<i>Tianlin Liu, Zhigang Zhang, Liu Xuejuan</i>	
Automatic Searching Method Based on Domain Taxonomy Ontology	705
<i>Yangyao Zhao, Nianbin Wang, Jie Liu</i>	
Ambiguous Measurements Multitarget Tracking with Random Sets	710
<i>Shurong Tian, Xiaoshu Sun, Biao Li</i>	

NEURAL NETWORKS AND DISTRIBUTED SYSTEMS

Optimizing Neuron Function Based on Entropy Clustering in Functional Networks	715
<i>Yujiong Liu, Shangbo Zhou</i>	
Face-Vase Illusion CNN.....	720
<i>Weidong Li, Ying Ren, Lequan Min</i>	
A Neural-Network Iteration Formula for the Simultaneous Inclusion of Polynomial Zeros	725
<i>Chuangxin Wang, Zhezhaio Zeng</i>	
A Method of Error Compensation on Sensors Based on Neural Networks Algorithm.....	729
<i>Anping Yang, Zhezhaio Zeng</i>	
Curve Forecast Based on BP Neural Networks with Application of Mental Curve Tracing	733
<i>Chuanmei Wang, Hengqing Tong</i>	
Designing Artificial Neural Networks Using MCPSO and BPSO.....	739
<i>Li Li, Ben Niu</i>	
Research on Ship Concurrent Collaborative Design Based on PDM	743
<i>Shaojuan Su, Yindong Liu</i>	
Comparison Principle and Stability of General Continuous Time Markov Jump System.....	749
<i>Fu'an Dong, Youli Wu, Yangwang Fang</i>	
Architecture Design of a Network Traffic Simulation System Based on Self-Similar Model	755
<i>Tian Jie, Xu Jing, Zhang Huachuan</i>	
Inferential Estimation of Texaco Coal Gasification Quality Using Stacked Neural Networks	760
<i>Rong Guo, Weiwei Guo, Dongchen Shi</i>	

EVOLUTIONARY COMPUTATION

The Comparative Research of Solving Problems of Equilibrium and Optimizing Multi-Resources with GA and PSO.....	764
<i>Xiang Li, Yanli Li, Li Zhu</i>	
A Hybrid Evolution Genetic Algorithm for Constrained Optimization.....	769
<i>Xinshun Ma, Xin Tian</i>	
Study on Multi-Object Optimization of Logistics Network Based on Genetic Algorithm.....	773
<i>Qiang Liu</i>	
A Two-Stage Hybrid Ant Colony Algorithm for the CVRP.....	778
<i>Chengming Qi, Shoumei Cui, Yunchuan Sun</i>	
Multi-Direction Searching Ant Colony Optimization for Traveling Salesman Problems	783
<i>Zhaoquan Cai</i>	

PATTERN RECOGNITION

IIR Model Identification by the Improving WTLMS	787
<i>Xin-yu Ouyang, Nan-nan Zhao, Xue-bo Chen</i>	
CFAR Method Based on Half Side Gaussian Model for Small Target Detection	792
<i>Xiao Zhou, Guilin Zhang</i>	
A Optimal Kernel Fisher Nonlinear Discriminant Analysis Method and Applied on Face Recognition	796
<i>Zhi-Guang Li, Fu-Long Wang, Wei-Zhao Zhu</i>	
Hybrid Abnormal Patterns Recognition of Control Chart Using Support Vector Machining	801
<i>Xiaoh Wang</i>	

INFORMATION AND DATA SECURITY

A New Remediation Model Based on Trusted Network	805
<i>Jian Wang, Yanheng Liu, Fang Mei, Jianqi Zhu, Yingge Zhang</i>	
Towards an Adaptive Intrusion Detection System: A Critical and Comparative Study	809
<i>Hassina Bensefia, Mohammed Ahmed-Nacer</i>	
A Formal Multilevel Database Security Model	815
<i>Baohua Wang, Xinqiang Ma, Danning Li</i>	
Research of Security Analysis of ARBAC Policy Based on Intelligence Planning	820
<i>Qiang Liu, Yun-Fei Jiang, Dong-Ning Rao, Xin-Du Chen</i>	
Cancelable Voiceprint Template Based on Chaff-Points-Mixture Method	826
<i>Wenhua Xu, Mingyong Cheng</i>	
Study of Linearly Cross-Coupled Chaotic Systems for a Random Bit Generator	830
<i>Zuowen Tan, Qi Wu</i>	
Perfect Concurrent Signature Protocol for Symmetric Participant	836
<i>Jiang Han, Xu Qiuliang, Zhang Bo</i>	
An Abuse-Free Optimistic Fair Exchange Protocol Based on BLS Signature.....	841
<i>Wei Gao, Fei Li, Banghai Xu</i>	
Formal Privacy Analysis of an Electronic Voting Scheme	846
<i>Xinxin Liu, Shaohua Tang</i>	
ECC-Based Threshold Digital Signature Scheme without a Trusted Party	851
<i>Qingqi Pei, Jianfeng Ma</i>	
Efficient Universally Composable Password-Based Key Exchange.....	856
<i>Hong-Yong Jia, Si-Han Qing, Li-Ze Gu, Yi-Xian Yang</i>	
Integration of Signature Encryption and Key Exchange.....	862
<i>Yong Ding, Ya-hui Li</i>	
Efficient ID-Based Ring Signature and Ring Signcryption Schemes.....	866
<i>Lijun Zhun, Futai Zhang</i>	
Simulatability and Security of Certificateless Threshold Signatures without Random Oracles.....	871
<i>Hu Xiong, Zhiguang Qin, Fagen Li</i>	
An Improved Conference Key Agreement Protocol	877
<i>Xing-lan Zhang, Quan-min Wang</i>	

An Improved RAIM Algorithm Based on the Total Least Squares.....	882
<i>Chuansen Yang, Xiaohao Xu, Ruihua Liu, Hongsheng Zhao</i>	
Robust Audio Watermarking Scheme Based on Wavelet Transforming Stable Feature.....	888
<i>Lin Kezheng, Fan Bo, Yang Wei</i>	
Detecting the MB1 with Higher-Order Statistics	893
<i>Donghui Hu, Lina Wang, Xiaqiu Jiang, Tingting Zhu, Yuntao Yue</i>	
A Local Watermarking Scheme in the Ridgelet Domain Combining Image Content and JND Model.....	897
<i>Yan-Li, Shengqian-Wang, Zhihua-Xie</i>	

CRYPTOGRAPHY, CODING, SECURITY, AND KEY MANAGEMENT

Digital Signature Scheme with a (t, l) Threshold Subliminal Channel Based on RSA Signature Scheme.....	903
<i>Wei Li, Gang Li, Xiangjun Xin</i>	
A Verifiable Visual Cryptography Scheme.....	908
<i>Bin Yu, Liguofang, Xiaohui Xu</i>	
A Modified Multi-Secret Sharing Visual Cryptography Scheme	912
<i>Bin Yu, Zhengxin Fu, Liguofang</i>	
A Systematic (48, 32) Code for Correcting Double Errors and Detecting Random Triple Errors.....	916
<i>Li Hao, Lixin Yu</i>	
A Novel ID-Based Verifiably Encrypted Signature without Random Oracle.....	920
<i>Xiao-Long Ma, Wei Cui, Li-Ze Gu, Yi-Xian Yang, Zheng-Ming Hu</i>	
Security Model for Certificateless Aggregate Signature Schemes	925
<i>Lei Zhang, Futai Zhang</i>	
Construction and Counting Orthomorphism Based on Transversal.....	930
<i>Qi Liu, Yin Zhang, Cheng Chen, Shuwang Lv</i>	
Cryptanalysis and Improvement of Shacham-Waters Ring Signature Scheme	935
<i>Huaqun Wang, Changhui Deng, Shuping Zhao, Futai Zhang</i>	

STEGANOGRAPHY, WATERMARKING, AUTHENTICATION, AND AUTHORIZATION

A Watermarking Scheme Based on Median Filtering.....	939
<i>Jianwei Yang, Quanxiu Wen, Guosheng Cheng</i>	
Enhanced RFID Security Method with Ownership Transfer	943
<i>Pekka Jäppinen, Harri Hämäläinen</i>	
APVP: An Aggregate-based Path Verification Routing Protocol for the Ad Hoc Networks	947
<i>Bin Wang, Jian-hui Zhang, Yun-fei Guo</i>	
User Authentication Based on Distance Estimation Using Ultrasonic Sensors.....	952
<i>Mun-Kyu Lee, Jin O. Park, Jeong Eun Song</i>	
The Application of Face Recognition in Network Security	956
<i>Liyang Lang, Yue Hong</i>	
Modeling Web Browser Interactions and Generating Tests	960
<i>Bo Song, Huaikou Miao, Shengbo Chen</i>	

NETWORK AND WIRELESS COMMUNICATION SECURITY

Analysis, Specification and Modeling of Non-Functional Requirements for Translative Model-Driven Development	966
<i>Agung Fatwanto, Clive Boughton</i>	
Research on Certificate Cooperating Signature Scheme in Mobile Ad Hoc Networks.....	972
<i>Lei Sun, Xuandong Xiong</i>	
Short-Term Traffic Flow Prediction Methods and the Correlation Analysis of Vehicle Speed and Traffic Flow.....	976
<i>Changhong Liu, Xintian Liu, Hu Huang, Lihui Zhao</i>	
Improvement on WLAN Multicast Key Management Protocol	980
<i>Huixian Li, Liaojun Pang</i>	
Secure and Efficient Key Management Protocol in Ad Hoc Networks	986
<i>Chuanrong Zhang, Yuqing Zhang</i>	
Varying-Window-Length Time-Frequency Peak Filtering and its Application to Seismic Data	990
<i>Hongbo Lin, Yue Li, Baojun Yang</i>	

WEB SECURITY AND DATA MANAGEMENT

Cryptanalysis of Two Chaotic Image Encryption Schemes Based on Permutation and XOR Operations.....	994
<i>Shujian Xu, Yinglong Wang, Jizhi Wang, Min Tian</i>	
K-MSD-WGT: A Local Recoding Algorithm Capturing Attribute Preferences.....	999
<i>Jinling Song, Guohua Liu, Liming Huang</i>	
Threshold Signature Scheme Based on Modular Secret Sharing	1003
<i>Qi Xie, Zhonghua Shen, Xiuyuan Yu</i>	
Short-Term Load Forecasting Based on Rough Set and Wavelet Neural Network	1007
<i>Ming Meng, Wei Sun</i>	
Security-Driven Task Scheduling Based on Evolutionary Algorithm	1012
<i>Hai Zhu, Yuping Wang</i>	
A Fine-Grained Digital Rights Transfer Policy and Trusted Distribution and Enforcement.....	1018
<i>Zhiyong Zhang, Qingqi Pei, Jianfeng Ma, Lin Yang, Kefeng Fan</i>	

ANTI-VIRUS AND BIOMETRICS

A Novel Cryptographic Algorithm Based on Iris Feature.....	1024
<i>Xiukun Li, Xiangqian Wu, Ning Qi, Kuanquan Wang</i>	
Directional Gaussian Derivative Filter Based Palmprint Authentication	1028
<i>Xiukun Li, Xiangqian Wu, Kuanquan Wang</i>	
Research of Applying Information Entropy and Clustering Technique on Network Traffic Analysis	1033
<i>Xin Du, Yingjie Yang, Xiaowen Kang</i>	
Link Farm Spam Detection Based on its Properties	1038
<i>Yong Wang, Zhiguang Qin, Bin Tong, Jing Jin</i>	

APPLICATIONS

Wavelet Packet Denoising for Pavement Surface Cracks Detection 1042
Yongxia Zuo, Guoqiang Wang, Chuncheng Zuo

A Novel Image Segmentation Method of Pavement Surface Cracks Based on Fractal Theory 1046
Yongxia Zuo, Guoqiang Wang, Chuncheng Zuo

Large Scale Terrain Compression and Real-Time Rendering Based on Wavelet Transform 1050
Xiaodong Wang, Xin Zheng, Qian Yin

An Intelligent Computation of Coverage and Capacity of Base Station in 3G Mobile Communications Network..... 1055
Yuan Ding, Hai-lin Liu, Xue-fei Cao

Author Index