CIS 2006

2006 International Conference on Computational Intelligence and Security

Guangzhou, China, November 3-6, 2006
Proceedings – Volume 1

TABLE OF CONTENTS

Learning and Fuzzy Systems

Fuzzy Q-Map Algorithm for Reinforcement Learning 1
YoungAh Lee and SeokMi Hong

Using Hybrid Hadamard Error Correcting Output Codes for Multi-class Problem Based on Support Vector Machines 7
Shilei Huang, Xiang Xie and Jingming Kuang

Detection and Classification of Moving Objects-Stereo or Time-of-Flight Images 11
Seyed Eghbal Ghobadi, Klaus Hartmann, Wolfgang Weihs, Chayakorn Netramai, Otmar Loffeld and Hubert Roth

A New Approach to Evaluating the Criticality Class of Spare Parts Incorporating Fuzzy Comprehensive Evaluation and Grey Relational Analysis. 17
Lin Wang, Yurong Zeng and Dongfeng Zhang

Sliding Mode Control for Uncertain Time Delay Systems Based on T-S Fuzzy Model. 22
Shaocheng Qu and Yongji Wang

Locally Weighted LS-SVM for Fuzzy Nonlinear Regression with Fuzzy Input-Output 28
Dug Hun Hong, Changha Hwang, Jooyong Shim and Kyung Ha Seok

Maximum Margin Criterion Embedded Partial Least Square Regression for Linear and Nonlinear Discrimination 33
Haixian Wang and Zilan Hu

Feature Selection for the Topic-Based Mixture Model in Factored Classification 39
Qiong Chen

Learning Dynamic Bayesian Networks Using Evolutionary MCMC 45
Hao Wang, Kui Yu and Hongliang Yao

How to Improve Dempster's Combination Rule from Point of View of Random Set Framework. 51
Yunmin Zhu and X. Rong Li

Evidence Theory-Based Approach to Sensors Multiple Fault Diagnosis 57
Ji Zhang , Bing-Shu Wang, Yong-Guang Ma and Jian Di

EDDTSTM: A Time-Nonlinear-Sensitive Trust Model Based on Human Mental Peculiarity in Virtual Computing Environments. 62
Qiang Zhang, Dongsheng Li, Zhenghu Gong and Weiwei Fan

A Quantum Reinforcement Learning Method for Repeated Game Theory. 68
Chunlin Chen, Daoyi Dong, Yu Dong and Qiong Shi

Multi-Class Prediction of Weighted Support Vector Machine Based on Temporal Data 73
Zhiqing Meng, Lifang Peng, Gengui Zhou and Yihua Zhu

Two-Stage SVMs for Solving Multi-class Problems. 78
Li Qi and Yushu Liu

Combining Multiple Clusterings Using Information Theory Based Genetic Algorithm. 84
Huilan Luo, Furong Jing and Xiaobing Xie

Study on the Job Shop Dynamic Scheduling under Fuzzy Environments 90
Fu-ming Li and Yun-long Zhu

Generalization Ability in SVM with Fuzzy Class Labels 97
Chan-Yun Yang

An Analytic Formula for the Weighted Average of Fuzzy Numbers under TW(the Weakest t-norm)-Based Fuzzy Arithmetic Operations 101
Dug Hun Hong, Changha Hwang and Kyung Tae Kim

Congestion Control Using Fuzzy Logic in QoS Networks 105
Runtong Zhang and Xiaomin Zhu

A Propositional Formal Deductive System UL – h∈[0.75,1] of Universal Logic 109
Yingcang Ma

A Case-Based Reasoning Method for Processing Model Recognition and Reuse in Program Comprehension. 113
Jianfei Qian, Hua Chen, Yuewei Ding and Fangzhong Qi

Study of the Direct Drive Feed System With Fuzzy Reasoning Self-Adjusting Control 117
Shuhong Xiao and Changli Zha

Mining User Preferred Knowledge from Web-Log 121
Hong-Fang Zhou, Bo-Qin Feng, Hui Yue and Lin-Tao Lv

The Realization of Fuzzy Control Arithmetic Based on XML and OOP 125
Gui-Ling Sun, Peng-Peng Xi, Zi-Feng Yang and Wei-Xiang Li

A Novel Grey-Based Feature Ranking Method for Feature Subset Selection. 129
Chi-Chun Huang, Hsin-Yun Chang and Cheng-Hong Yang

A Design Approach for Contextualized Collaborative Recommender System by Nurturing the User Interactive Feedback 133
Supratip Ghose, Jin-Guk Jung and Geun-Sik Jo
Two Evolutionary Methods for Learning Bayesian Network Structures. 137
Alain Delaplace, Thierry Brouard and Hubert Cardot
Research on VRP Optimizing Based on Hierarchy Clustering and IGA under Common Distribution 143
Chunyu Ren and Xiaobo Wang
A New Method for Decision on the Structure of RBF Neural Network 147
Mingxing Jia, Chunhui Zhao, Fuli Wang and Dapeng Niu
A Hybrid Backpropagation Network-Based Scheduling Knowledge Acquisition Algorithm. 151
Weida Wang and Wenjian Liu
A Discernibility Matrix Based Algorithm for Feature Selection 155
Fuyan Liu
Modeling the Supplier Agent's Risk Strategy Based on Fuzzy Logic Combined with the Q-Learning Algorithm 159
Morteza Rahimiyan and Habib Rajabi Mashhadi
Control of Five-qubit System Based on Quantum Reinforcement Learning. 164
Daoyi Dong, Chunlin Chen, Zonghai Chen and Chenbin Zhang
A New Approach to Identify Fingerprint Using Support Vector Machine 168
Nguyen Thanh Trung, Tran Duy Thao, Pham Nam Trung and Tran Minh Triet
A Novel SVM to Improve Classification for Heterogeneous Learning Samples 172
Chan-Yun Yang, Che-Chang Hsu and Jr-Syu Yang
Least Squares Support Feature Machine 176
Zhenyu Chen and Jianping Li
Fuzzy Support Vector Classification Based on Fuzzy Chance Constrained Programming. 180
Zhimin Yang and Guangli Liu
Combining Gene-Finding Programs by Using Dempster-Shafer Theory of Evidence for Gene Prediction. 183
Yang Weng and Yunmin Zhu
A New Machine Learning Method Based on PCA and SVM 187
Rongyong Zhao, Hao Zhang, Jiangfeng Lu, Cuiling Li and Hui Zhang

Evolutionary Computation

Labeling of Human Motion by Constraint-Based Genetic Algorithm. 191
Fu Yuan Hu, Hau San Wong, Zhi Qiang Liu and Hui Yang Qu
Survival and Construction Theory for One-Point Crossover. 197
Liang Ming and Yuping Wang
Evolving Vibration Absorbers Based on Genetic Programming and Bond Graphs 202
Shaobo Li and Jianjun Hu
Automatic Programming Methodology for Program Reuse 208
Zhuo Kang, Yan Li and Li-Shan Kang
A Genetic Algorithm Approach on Capacitated Minimum Spanning Tree Problem. 215
Gengui Zhou, Zhenyu Cao, Jian Cao and Zhiqing Meng
Fast Computational Method for a Class of Nonlinear Bilevel Programming Problems Using the Hybrid Genetic Algorithm 219
Hong Li, Yong-Chang Jiao, Li Zhang and Yuping Wang
Seeker Optimization Algorithm 225
Chaohua Dai, Weirong Chen and Yunfang Zhu
Layout Design of a Satellite Module Using a Human-Guided Genetic Algorithm. 230
Junzhou Huo, Yanjun Shi and Hongfei Teng
A New Test Scheduling Method Based on Evolutionary Programming Algorithms for System-on-Chip 236
Zhongliang Pan, Ling Chen and Guangzhao Zhang
Short-Term Hydropower Station Scheduling Under Deregulated Environment Based on Improved Evolutionary Programming 242
Shuai Li and Chuanwen Jiang
An Analysis about the Asymptotic Convergence of Evolutionary Algorithms 248
Lixin Ding and Zhuomin Yu
A Dynamical Particle Swarm Algorithm with Dimension Mutation 254
Jingxuan Wei and Yuping Wang
Population-Based Extremal Optimization with Adaptive Lévy Mutation for Constrained Optimization. 258
Min-Rong Chen, Yong-Zai Lu and Genke Yang
A New Trajectory Planning Method Of Redundant Manipulator Based On Adaptive Simulated Annealing
Genetic Algorithm(ASAGA) 262
Yonggang Peng and Wei Wei

The Optimization Of Nonlinear Systems Identification Based On Genetic Algorithms . . . 266
Xin Tan and Huaqian Yang
A Co-evolutionary Game Optimization Method for Layout Design of Satellite Module . . . 270
Wei Zeng, Yan-Jun Shi and Hong-Fei Teng
Game Model Based Co-evolutionary Algorithm and Its Application in Multiobjective Optimization Problems . . . 274
Gaoping Wang and Yongji Wang
Fully Informed Differential Evolution . . . 278
Mahamed G. H. Omran, Andries P Engelbrecht, Ayed Salman and Suha A. Hamdan
Efficient Rule Generation for Cost-Sensitive Misuse Detection Using Genetic Algorithms . . . 282
Saqib Ashfaq, M. Umar Farooq and Asim Karim
A New Multi-Objective Evolutionary Optimisation Algorithm: The Two-Archive Algorithm . . . 286
Kata Praditwong and Xin Yao
GA Based Neural Network for Short-Term Traffic Flow Prediction in Urban Signalized Arterials. . . . 292
Zuyuan Yang, Xiyue, Huang, Lisheng Yin and Hongfei Liu
Genetic Algorithm and Pareto Optimum Based QoS Multicast Routing Scheme in NGI . . . 296
Xingwei Wang, Pengcheng Liu and Min Huang
Ant Routing Algorithm for Heavy Load Mobile Ad Hoc Networks . . . 300
Jianli Ding, Lixin Zou and Wansheng Tang
Adaptive Parallel Immune Evolutionary Strategy . . . 304
Bo Cheng and Zhenyu Guo
About the Time Complexity of EAs Based on Finite Search Space . . . 308
Lixin Ding and Yingzhou Bi
Multi-Objective Evolutionary Algorithm Based on Max-Min Distance Density . . . 312
L.B. Zhang, C.G. Zhou, X.L. Xu, C.T. Sun and M. Liu
An Improved Gaussian Dynamic Particle Swarm Optimization Algorithm . . . 316
Qingjian Ni and Hancheng Xing
A Chaotic Genetic Algorithm for Fuzzy Grid Job Scheduling . . . 320
Dan Liu and Yuanda Cao
Genetic Programming Based on an Adaptive Regularization Method . . . 324
Yanling Wu, Jiangang Lu and Youxian Sun
The Effective Genetic Clustering Algorithm and the Optimization of the Web Advertising Investment . . . 328
Xinyi Peng

Bio-Inspired Computing

A New Predictive Mechanism Based on Artificial Neural Network . . . 333
Dong Li and Wenqiang Yu
A New Algorithm for Raising the Training Speed of Process Neural Network . . . 339
Zaiwen Liu, Xiaoyi Wang, Xiaoqin Lian and Zhengxiang Wang
Neurodynamic Approach for Generalized Eigenvalue Problems . . . 345
Quanju Zhang, Fuye Feng and Fuxian Liu
Adaptive Particle Swarm Optimization Guided by Acceleration Information . . . 351
Jianchao Zeng, Jing Jie and Jianxiu Hu
Applying Discrete Fourier Transformation to DNA Motifs Identification . . . 356
Zhiming Dai and Xianhua Dai
Molecular Diagnosis of Tumor Based on Independent Component Analysis and Support Vector Machines . . . 362
Shulin Wang, Huowang Chen, Ji Wang and Dingxing Zhang
Gene Selection for Cancer Classification Using Wilcoxon Rank Sum Test and Support Vector Machine . . . 368
Chen Liao, Shutao Li and Zhiyuan Luo
Two-Phase Quantum Based Evolutionary Algorithm for Multiple Sequence Alignments . . . 374
Hongwei Huo and Vojislav Stojkovic
Linear Programming Relax-PSO Hybrid Bound Algorithm for a Class of Nonlinear Integer Programming Problems . . . 380
Yuelin Gao, Chengxian Xu and Jimin Li
An Improved Ant Colony System and Its Application . . . 384
Xiang-Pei Hu, Qiu-Lei Ding, Yong-Xian Li and Dan Song
A Further Discussion on Convergence Rate of Immune Genetic Algorithm to Absorbed-state . . . 390
Xiaoping Luo, Wenyao Pang and Ji Huang
Artificial Immune Networks: Models and Applications . . . 394
Xian Shen, X.Z. Gao, Rongfang Bie and Xin Jin

A Multi-Objective Fuzzy Genetic Algorithm for Job-shop Scheduling Problems . . . 398
Y.J. Xing, Z.Q. Wang, J. Sun and J.J. Meng
Clonal Selection Algorithm with Hyper Mutation and Spatial Clone Extension . . . 402
Zongxin Jin, Guangyuan Liu and Wanhui Wen
Channel Estimation Based on Clonal Selection Algorithm in MIMO System . . . 406
Yanli Ke, Licheng Jiao and Weida Zhou
A Bio-Inspired Approach for Autonomous Service Components Configuration in Dynamic Environments . . . 410
Ki-Won Yeom, Joong-Ho Lee and Ji-Hyung Park
Solution To Multi-objective Optimization of Flow Shop Problem Based On ACO Algorithm . . . 417
Jianfu Li and Wei Zhang
A Modified Particle Swarm Optimization Algorithm . . . 421
Yan Jiang, Tiesong Hu, Chongchao Huang and Xianing Wu
Scheduling Hybrid Flow Shop Containing Multi-Functional Machines . . . 425
Yanhai Hu, Dengzhe Ma and Feifan Ye
Investigation of Machined Surface Quality about Single Crystal with Vacancy by Molecular Dynamics Simulation . . . 429
Xuesong Han and Xuemei Han
Adaptive RBF Neural Network Training Algorithm For Nonlinear and Nonstationary Signal . . . 433
Kah Phooi Seng and L.M. Ang
On Robust Stabilization of A Class of Neural Networks with Time-Varying Delays . . . 437
Xuyang Lou and Baotong Cui
Optimal Path Selection in Computer Networks Using Chaotic Neural Networks . . . 441
Huidang Zhang and Yuyao He
Global Robust Stability Criterion for Uncertain Cellular Neural Networks with Time-Varying Delay: An LMI Approach . . . 445
Xiaobing Zhou, Yue Wu, Yihong Zeng
Learning Geodesic Metric for Out-of-Sample Extension of Isometric Embedding . . . 449
Chun-Guang Li, Jun Guo, Xiangfei Nie
Design and Analysis of Food-Chain Algorithm . . . 453
Hai-Fei Yu and Ding-Wei Wang
Particle Swarm Optimization with Escape Velocity . . . 457
Xiuli Wang, Yongji Wang, Haitao Zeng and Hui Zhou
General Particle Swarm Optimization Based on Simulated Annealing for Multi-Specification
One-Dimensional Cutting Stock Problem . . . 461
Xianjun Shen, Yuanxiang Li, Zhifeng Dai and Bojin Zheng
Gene Ranking Using R-Metric . . . 465
Su Yang
Parallel Algorithm for Protein Folds Prediction . . . 470
Gang Wang, Xiaoguang Liu and Jing Liu

Multi-Agents and Autonomy-Orietned Computing

Using Evolving Agents to Critique Subjective Music Compositions . . . 474
Chuen-Tsai Sun, Ji-Lung Hsieh and Chung-Yuan Huang
An Architecture for Emotional Agent . . . 481
Jun Hu and Chun Guan
Agent Based Load Balancing Model for Service based Grid Applications . . . 486
Jun Wang, Quan-Yuan Wu, Di Zheng and Yan Jia
Multi-agent Systems Formal Model for Unmanned Ground Vehicles . . . 492
Zhiqiang Ma, Fangdong Hu and Zhenhua Yu
Knowledge Update for Multi-agent System Based on Modal Default Logic . . . 498
Meihong Wu and Yongsheng Xue
DSWOS: Decentralized Small-World Optimization Strategy . . . 504
Xiaohua Wang, Xinyan Yang and Licheng Jiao
An Ontology-Based RFID System Model for Supporting Semantic Consistency in Ubiquitous Environment . . . 510
Jang-won Kim, Dongwon Jeong, Keunhwan Jeon, Jinhyung Kim and Doo-Kwon Baik
Multistage Inventory Hybrid Intelligent Optimization under Grey Fuzzy Uncertainty . . . 514
Dongbo Liu, Dao Huang, Yu Tian, Dongbo Liu and Yujuan Chen
Towards a Management Paradigm with a Constrained Benchmark for Autonomic Communications . . . 520
Frank Chiang, Robin Braun and Shaowu He
A Conceptual Model for Secure Mobile Agent Systems . . . 524
Monia Loulou, Ahmed Hadj Kacem, Mohamed Jmaiel and Mohamed Mosbah

Multiagent Search Strategy for Combinatorial Optimization Problems in Ant Model . . . 528
Seok Mi Hong and SeungGwan Lee
The Algorithm Research for "On the fly" Model Checking Temporal Logics of Knowledge in Multi-Agent Systems . . . 532
Lijun Wu, Jinshu Su and Qingliang Chen
Reasoning About Knowledge by SAT Solving . . . 536
Kaile Su, Qingliang Chen, Xizhong Zheng and Weiya Yue
Construction of an Affective Model for Attention Shift: the KEPA Model. . . . 540
Yanrong Jiang, Nanfeng Xiao and Linying Zhang
Formation Control of Multiple Behavior-Based Robots . . . 544
Bailong Liu, Rubo Zhang and Changting Shi
A Graph Transformation Based Meta-Model for Structural Evolution in Multi-Agent Systems . . . 548
Zheng-guang Wang and Xiao-hui Liang
Analysis of Distributed Intelligent Agent Model for QoS Dynamic Scheme in GSM/GPRS Network . . . 554
Yan Yang, Gang Zhu, Xiaojin Zhang and Zhangdui Zhong
Multi-agent Coordination Schemas in Decentralized Production Systems . . . 558
Gang Li, Yongqiang Li, Linyan Sun and Ping Ji
Distributed Cooperative Planning for Multiple UAVs Based on Agent Negotiation . . . 562
Tao Long, Xiaohua Huo, Yifeng Niu, Lincheng Shen
Formalizing Multi-agent Planning Domains with Sorted Actions. . . . 566
Zhiguo Zhang and Yunfei Jiang
Generalized Knight's Tour Problem and Its Solutions Algorithm . . . 570
Sen Bai, Xiao-Feng Liao, Xiao-Hong Qu and Yi-Jun Liu

Intrusion Detection

High-Performance Stateful Intrusion Detection System . . . 574
Seungyong Yoon, Byoungkoo Kim and Jintae Oh
A Unifying Method for Outlier and Change Detection from Data Streams . . . 580
Zhi Li, Hong Ma and Yongdao Zhou
A New Approach for Detecting Abnormal Email Traffic in Backbone Network . . . 586
Ni Zhang, BinXing Fang, Li Guo and Yu Jiang
Research on Network Anomaly Detection Based on Clustering and Classifier . . . 592
Hongyu Yang, Feng Xie and Yi Lu
Intrusion Detection Based on Adaptive Polyclonal Clustering . . . 598
Li Ma, Lin Bai, Li-cheng Jiao and Chang-guo Chen
Temporally Aware Behaviour-Based Security in Smart Cards . . . 604
William G. Sirett, Konstantinos Markantonakis and Keith Mayes
LLE on System Calls for Host Based Intrusion Detection . . . 609
Subrat Kumar Dash, Sanjay Rawat and Arun K Pujari
Fair Reputation Evaluating Protocol for Mobile Ad Hoc Network. . . . 613
Zhu Lei, DaeHun Nyang, KyungHee Lee and Hyotaek Lim
OIDM: An Intrusion Detection Mechanism for Object-based Storage System. . . . 617
Zhikun Wang, Dan Feng, Lingfang Zeng and Lei Tian
Application of Fuzzy ART for Unsupervised Anomaly Detection System . . . 621
Xiang Gao, Min Wang and Rongchun Zhao
Masquerade Detection System Based on Correlation Eigen Matrix and Support Vector Machine . . . 625
Zhanchun Li, Zhitang Li and Bin Liu
An Attack-Feedback-Based Approach for Verifying the Success of Intrusion Attempts . . . 629
Zhi-Hong Tian, Bin Li and Hong-Li Zhang

Pattern Recognition

Feature Weighted Rival Penalized EM for Gaussian Mixture Clustering:Automatic Feature and Model Selections in a Single Paradigm . . . 633
Yiu-ming Cheung and Hong Zeng
Printing Technique Classification for Document Counterfeit Detection . . . 639
Christoph H. Lampert, Lin Mei and Thomas M. Breuel
A Snake-Based Segmentation Algorithm for Objects with Boundary Concavities in Stereo Images. . . . 645
Shin-Hyoung Kim, Ashraf Alattar and Jong Whan Jang
Evaluation of Distance Measures for NMF-Based Face Recognition . . . 651
Yun Xue, Chong Sze Tong and Weipeng Zhang

Combination of Conflict Evidences Using Grey Association Analysis and D-S Rule . . . 657
Guoping Xu, Weifeng Tian, Zhihua Jin and Li Qian
Handwritten Character Recognition Using Combined Gradient and Wavelet Feature . . . 662
Weipeng Zhang, Yuan Yan Tang and Yun Xue
Feature Extraction Using Histogram Entropies of Euclidean Distances for Vehicle Classification . . . 668
Ming Bao, Luyang Guan, Xiaodong Li, Jing Tian and Jun Yang
Face Recognition Based on Supervised Kernel Isomap . . . 674
Rui-jun Gu and Wen-bo Xu
Face Recognition Using Kernel Nearest Feature Classifiers . . . 678
Yunhui He
An Algorithm for Point Correspondences Based on Laplacian Spectra of Graphs . . . 684
Nian Wang, Jun Tang, Yi-Zheng Fang and Rui Dong
A Novel Model for Independent RBF Neural Networks Employing Gabor-Based Kernel PCA with Fractional Power Polynomial Models for Feature Extraction . . . 690
Gaoyun An, Qiuqi Ruan and Jiying Wu
Full-Space LDA With Evolutionary Selection for Face Recognition . . . 696
Xin Li, Bin Li, Hong Chen, XianJi Wang and ZhengQuan Zhuang
Radar Target Recognition Method Using Improved Support Vector Machines Based on Polarized HRRPs . . . 702
Huaitie Xiao, Lei Guo and Qiang Fu
Shannon Wavelet Kernel Based Subspace LDA Approach in Face Recognition . . . 708
Wen-Sheng Chen, Pong Chi Yue, Bin Fang and Jian-Huang Lai
An Adaptive Single Model of Maneuvering Target Tracking . . . 714
Jiahong Chen, Jiuqiang Han and Xinman Zhang
DT-CWT Feature Based Classification Using Orthogonal Neighborhood Preserving Projections for Face Recognition . . . 719
Yuehui Sun and Minghui Du
Precise Eye Localization with AdaBoost and Fast Radial Symmetry . . . 725
Wencong Zhang, Hong Chen, Peng Yao, Bin Li and Zhenquan Zhuang
Chinese Chunking Using ESVM-KNN . . . 731
Hong Gao, Degen Huang, Yuansheng Yang and Lishuang Li
Fingerprint Matching Using Invariant Moment FingerCode and Learning Vector Quantization Neural Network . . . 735
JuCheng Yang, JinWook Shin, BungJun Min, JongBin Park and DongSun Park
Real-time Object Segmentation Based on GPU . . . 739
Sun-Ju Lee and Chang-Sung Jeong
An Embedded System for Posture Classification of the Vehicle Occupant . . . 743
Min-Soo Jang, Young-Hoon Kim, Gwi-Tae Park, Yong-Guk Kim and Seok-Joo Lee
Real-time Expression Recognition System Using Active Appearance Model and EFM . . . 747
Kyoung-Sic Cho, Yong-Guk Kim and Yang-Bok Lee
Palmprint Texture Analysis Using Derivative of Gaussian Filters . . . 751
Xiangqian Wu, Kuanquan Wang and David Zhang
Face Detection Based on Self-Skin Segmentation and Wavelet Support Vector Machine . . . 755
Jiuxian Li, Siyu Xia and Liangzheng Xia
Classification Based on Gabor Filter Using RBPNN Classification . . . 759
Zhi-Kai Huang, De-Shuang Huang, Michael R. Lyu and Tat-Ming Lok

Data Mining

A Scalable Grid-Based Clustering Algorithm for Very Large Spatial Databases . . . 763
Yufen Sun and Yansheng Lu
Unsupervised Identifying Diagnostic Genes and Specific Phenotypes from Microarray Data . . . 769
Yuhai Zhao, Ying Yin and Guoren Wang
Identifying Vital/Protect Patterns for Classification in Multiple Phenotypes Medical Data . . . 775
Ying Yin, Bin Zhang and Yuhai Zhao
Structure-Based Rule Selection Framework for Association Rule Mining of Traffic Accident Data . . . 781
Rangsipan Marukatat
Feature Reduction for Web Document Classification . . . 785
MuHee Song, DongJin Kang and SangJo Lee
A Semantic Approach for Mining Biological XML Databases . . . 789
K G Srinivasa, Jagirdar Sweta, K R Venugopal and L M Patnaik
Applying A Machine Intelligence Algorithm for Prediction . . . 793
Xiongmin Li and Christine W. Chan

Spatial Data Mining with Uncertainty . . . 797
Binbin He and Cuihua Chen
A Fault Diagnosis System for Turbo-Generator Set by Data Mining . . . 801
Ping Yang and Wei Ren
Combination Tree for Mining Frequent Patterns Based on Inverted List . . . 805
Yong Liu and Yun-Fa Hu
WDM: A New Efficient Visualization Method of Classifying Web Documents Based on SOM . . . 809
Xi Bai, Jigui Sun and Hong Luo
Machine Learning for Keyphrases Extraction Based on Naive Bayesian Classifier . . . 815
Jiabing Wang, Hong Peng and Jingsong Hu
Density Based Cluster Validity Measurement for Fuzzy Clustering . . . 819
Lingkui Meng, Chunchun Hu and Frank Zhigang Wang
One Entropy Partition Method for TCM . . . 823
Jing Chen, Jianxin Chen, Guangcheng Xi, Jianqiang Yi and Dongbin Zhao
QTOP-K:A Novel Algorithm for Mining High Quality Pattern-based Clusters in GST Microarray Data . . . 828
Shuhui Chen, Zhonghua Tang, Bo Chen, Hongzhuo Fu and Zhifeng Hao
An Incremental and Hash-based Algorithm for Mining Frequent Episodes . . . 832
Yunlan Wang, Zhengxiong Hou and Xingshe Zhou
A Hybrid Model for Nondestructive Measurement of Internal Quality of Yogurt . . . 836
Yongni Shao, Yong He and Lihong Tan
A New Improvement on Apriori Algorithm . . . 840
Lei Ji, Baowen Zhang and Jianhua Li
Optimizing Grid Resource Combination Using Frequent Pattern Mining . . . 845
Peijie Huang, Hong Peng, Qilun Zheng and Xuezhen Li

Application

Improved Ant Colony Algorithm (ACA) and Game Theory for Economic Efficiency Evaluation of Electrical Power Market . . . 849
Ming Zeng, Fengkui Luan, Jing Zhang, Baohua Liu and Zhixiang Zhang
An Efficient Device Authentication Protocol Using Bioinformatic . . . 855
Yoon-Su Jeong, Bong-Keun Lee and Sang-Ho Lee
A Σ△ Fractional-N PLL with Multiple Charge Pumps and Capacitance Scaling Scheme . . . 859
Young-Shig Choi, Hong-Joon Yang, Jung-Min Choi, Yeong-Bin Bae, Hyuk-Hwan Choi and Tae-Ha Kwon
An Application of Detecting Plagiarism Using Dynamic Incremental Comparison Method . . . 864
Byung-Ryul Ahn, Heon Kim and Moon-Hyun Kim
A Mobile-Agent-Based E-Commerce Taxation Model . . . 868
Dengwen Wei, Zaobin Gan and Jinlong Zhang
A Proposal Representation, Digital Coding and Clustering of Odor Information . . . 872
Jeong-Do Kim, Dong-Jin Kim, Dong-Won Han, Hyung-Gi Byun, Yu-Kyung Ham, Woo-Suk Jung, Jun-Seok Park and Sam-Kweon Oh
Mutual Authentication using Fuzzy Fingerprint Vault . . . 878
Daesung Moon, Sungju Lee, Seunghwan Jung and Yongwha Chung
Analysis on the Cell Sectorization Using the Wide-beam and Narrow-beam for CDMA Mobile Communication Channels . . . 882
Dong You Choi and Kwan Houng Lee
e-Learning System "Mobile Web-Com" for Mobile Phones . . . 886
Munehisa Kamata, Susumu Shibusawa and Tatsuhiro Yonekura
Improvement of Fuel Economy Using Fuzzy Logic-Based Power Distribution Control Strategy for a FCHEV . . . 891
Nam-Su Lee, Gu-Min Jeong and Hyun-Sik Ahn
Constructing Opaque Predicates for Java Programs . . . 895
Zheng Yuan, Qiaoyan Wen and Ming Mao
A Structural Fairness Based on Game and Its Application to Analysis of Electronic Commerce Protocols . . . 899
Ling Zhang, Jianping Yin and Mengjun Li
Recurrent Neural Network with Kernel Feature Extraction for Stock Prices Forecasting . . . 903
Xiang Sun and Yong Ni
Credit Evaluation based on Support Vector Machine . . . 908
Sulin Pang
The Most Vital Node of the Shortest Path under Uncertainty . . . 912
Huahai Yan
An Integrated Map Matching Algorithm Based on Fuzzy Theory For Vehicle Navigation System . . . 916
Haibin Su, Jiansheng Tang and Chaozhen Hou

A Monitoring System of Chinese Pill Material's Density and Moisture Content Based on Focusing Fuzzy Clustering Algorithm 920
Ping Yang and Li-wei Xu
An Improved Particle Swarm Optimizer for Truss Structure Optimization 924
Lijuan Li, Zhibin Huang and Feng Liu
Applying Support Vector Machine Method to Forecast Electricity Consumption 929
Shu-xia Yang and Yi Wang
A Framework for Logistics Strategy Planning Based on Knowledge Syntheses 933
Qi Xu
Adaptive Control of the Aircraft Turbojet Engine Based on the Neural Network 937
Ma Jing

Application

The Reliability Analysis of a Two-unit Cold Standby System with Failable Switch and Maintenance Equipment. 941
Xian-yun Meng, Li Yuan and Rui-ling Yin
A New ANN Optimized by Improved PSO Algorithm Combined With Chaos and Its Application in Short-term Load Forecasting. . . . 945
ShangDong Yang and Xiang Li
Novel Method for Monocular Vision Based Mobile Robot Localization 949
Maohai Li, Bingrong Hong and Ronghua Luo
Artificial Neural Network Based Software Sensor for Yeast Biomass Concentration During Industrial Production. 955
Bing Li and Lin Li
AWQEE-DSS:A Decision Support System for Aquaculture Water Quality Evaluation and Early-warning 959
Ruimei Wang, Daqing Chen and Zetian Fu
A Combination Weight Method Based on Rough Set Theory 963
Le-hong Kuang, Lin-rong Xu and Bao-chen Liu
Reversible Synthesis with Minimum Logic Function 968
Zhijin Guan, Xiaolin Qin, Ziming Ge and Yiqing Zhang
A Hole Repairing Method for Triangle Mesh Surfaces 972
Feng Li, Bo Chen and Wen-hao Leng
Low-Power High-Level Data-Flow Synthesis 976
Guanjun Wang and Tao Zhou
A Study on Icon-URI Structure Compatible with the ENUM System for Mobile Device 980
Jiwon Choi and Keecheon Kim
Application of FA-ANN to Discriminate Tea Varieties Based on Spectroscopy. 984
Xiaoli Li and Yong He
Identification of Rough Rice Species and Years by Visible/Near-infrared Reflectance Spectroscopy 988
Yongni Shao, Yong He and Fang Cao
Application of Improved BP Neural Network to Predict Agricultural Commodity Total Production Value 992
Yidan Bao, Haiyan Cen, Yong He and Lilan Lin
Pilot-Based Channel Estimation in Time-Variant MC-DS-CDMA Systems 996
Xianhua Dai and Xiaohong Li
Coordinated Design of FACTS Controllers for Transient Stability Improvement Based on Multi-Objective
Evolutionary Programming 1000
Lin Zhang, Bin Ye, Quanyuan Jiang and Yijia Cao
Rock Fracture Aperture Characterization Based on Corner Segment Algorithm in Image Analysis 1004
Fang Zhao and Weixing Wang
Sparse Representation of Complex Valued Signals 1008
Zhaoshui He, Shengli Xie and Yuli Fu
Study on The Competence Valuation of The Incubated Enterprise in The Incubator 1012
Jianhui Yang and Xiaobin Li
Server Load Prediction Based on Wavelet Packet and Support Vector Regression 1016
Shuping Yao, Changzhen Hu and Wu Peng

Network Systems and Security

A Load Scattering Algorithm for Dynamic Routing of Automated Material Handling Systems 1020
Alex K. S. Ng, Janet Efstathiou and Henry Y. K. Lau
Software Agents Action Securities 1026
Vojislav Stojkovic and Hongwei Huo
An Intelligent Digital Content Protection Framework between Home Network Receiver Devices 1032
Qingqi Pei, Kefeng Fan, Jianfeng Ma and Jinxiu Dai

Secure Mobile IP Registration Scheme with AAA from Parings to Reduce Registration Delay 1037
Xuefei Cao, Weidong Kou and Huaping Li
Traffic Identification and Overlay Measurement of Skype 1043
Yanfeng Yu, Dadi Liu, Jian Li and Changxiang Shen
A Hybrid Information Filtering Model. 1049
Xun Wang, Yi Xie and Biwei Li
The Modeling, Simulation and Effectiveness Evaluation for Communication Networks of Multi-layer Satellites Constellation. 1055
Haitao Yang, Xinmin Wang and Hongli Zhao
An Early-Delivery Algorithm for Consensus-based Atomic Broadcast 1061
Lei Li, Huaimin Wang and Dianxi Shi
A Heuristic Algorithm for Multiple Factors Service Placement Problems 1067
Yun Pan, Licheng Wang and Zhenwei Yu
An Intelligent QoS Multicast Routing Algorithm under Inaccurate Information 1073
Junwei Wang, Xingwei Wang and Min Huang
Data Traffic Fair Scheduling for Multi-user OFDM System Based on Heuristic Genetic Algorithm 1078
Erdun Zhao and Juan Yao
Prefetchability Model of Web Objects 1084
Lin Wei, Lei Shi, Bing Song and Yun Shi
An Efficient and Secure RFID Security Method with Ownership Transfer 1090
Kyosuke Osaka, Tsuyoshi Takagi, Kenichi Yamazaki and Osamu Takahashi
Elliptic Curve Based Authenticated Key Agreement Protocol for Wireless Security 1096
SeongHan Shin, Kazukuni Kobara and Hideki Imai
Security and Privacy on Authentication Protocol for Low-cost RFID 1101
Yong-Zhen Li, Young-Bok Cho, Nam-Kyoung Um and Sang-Ho Lee
Securing Overlay Activities of Peers in Unstructured P2P Networks 1105
Jun-Cheol Park and Geonu Yu
Toward Modeling Sensor Node Security Using Task-Role Based Access Control with TinySec. 1109
Misun Moon, Dong Seong Kim and Jong Sou Park
A Key Distribution Scheme Based on Public Key Cryptography for Wireless Sensor Networks 1113
Xiaolong Li, Yaping Lin, Yeqing Yi and Jianping Yu
Dynamic Update of Firewall Policy Based on MFDT 1117
Wenhui Chen, Weiping Wang, Zhepeng Li and Huaping Chen
A New Key Management Scheme For Large-Scale MANET 1121
Pan Dong and Peidong Zhu
Characterization of Malicious Overlay Networks on the Internet 1125
Jingbo Hao, Jianping Yin and Boyun Zhang
Modeling Passive Worm Propagation in Peer-to-Peer System 1129
Jie Ma, Xinmeng Chen and Guangli Xiang
Security Improvement on Chien et al.'s Remote User Authentication Scheme Using Smart Cards 1133
Xiaoyi Duan, JianWei Liu and Qishan Zhang
An Efficient and Secure Group Key Agreement Using in the Group Communication of Mobile Ad-hoc Networks 1136
Yuzhe Chen, Minghua Zhao, Shanyu Zheng and Zhiwei Wang
Study on the Spam-Filtering System Based on Feature Selection Mechanism and Improved SVM Classification. 1143
Shouqiang Liu, Deyu Qi, Bo Liu, Chunhua Pan and Bo Yang
Design and Implementation of an XML Firewall 1147
Yin-Soon Loh, Wei-Chuen Yau, Chien-Thang Wong and Wai-Chuen Ho
An HTTP Flooding Detection Method Based on Browser Behavior 1151
Wei-Zhou Lu and Shun-Zheng Yu
UbiMDR: Supporting Application-Independent Semantic Interoperability for Ubiquitous Applications. 1155
Jeong-Dong Kim, Dongwon Jeong, Yixin Jing and Doo-Kwon Baik
Collision-Resilient Multi-State Query Tree Protocol for Fast RFID Tag Identification 1159
Jae-Min Seol and Seong-Whan Kim
Intelligent Energy Efficient Development of Wireless Sensor Networks 1163
JunSu Moon, SeokMi Hong and SeungGwan Lee
An Intelligent Video Transmission Protocol in Grid 1167
Xiaodong Liu, Qionghai Dai and Chuang Lin
Flow Capturing Location-allocation Problem with Piecewise Linear Value-Time Function Based on
Max-min Ant Colony Optimization 1172
Jun Yang and Min Zhang

A Particle Swarm Based Network Hosts Clustering Algorithm for Peer-to-Peer Networks 1176
Yi Jiang, Jinyuan You and Xiaojian He

Information Hiding and Authentication

A Secure Fragile Watermarking Scheme for Image Authentication 1180
Hongjie He, Jiashu Zhang and Heng-Ming Tai
Copyright Protection Method using the Combination of Wavelet Coefficients and Copyright Message 1186
Jin-Wook Shin, Jucheng Yang, Hyouck-Min Yoo, Dong-Sun Park
Image Adaptive Watermarking Technique for Digital Phone 1190
Jae-Sik Sohn, Seung-Ik Lee and Duk-Gyoo Kim
Effective Steganalysis Based on Statistical Moments of Differential Characteristic Function 1195
Zugen Liu, Xuezeng Pan, Lie Shi, Jimin Wang and Lingdi Ping
Watermark-Based Scheme to Protect Copyright of SVG Data 1199
Xu Zhou and Xuezeng Pan
Subjective and Objective Watermark Detection Using a Novel Approach - Bar-coded Watermarking 1203
Vidyasagar Potdar, Song Han, Elizabeth Chang, Chen Wu
A Generic Algorithm Based Video Watermarking in the DWT Domain 1209
Gaobo Yang, Xingming Sun and Xiaojing Wang
Image-adaptive Watermarking Using The Improved Signal to Noise Ratio 1213
Xinshan Zhu
A VLSI Implementation of Minutiae Extraction for Secure Fingerprint Authentication 1217
Sung Bum Pan, Daesung Moon, Kichul Kim and Yongwha Chung
Low-cost Authentication Protocol of the RFID System Using Partial ID 1221
Yong-Zhen Li, Yoon-Su Jeong, Ning Sun and Sang-Ho Lee
Experiment Research on Situation Awareness of the Operators for Unmanned Aerial Vehicle 1225
Huahui Yi, Bifeng Song, Dongchao Ji and Tianxiang Yu
New Malicious Code Detection Based on N-gram Analysis and Rough Set Theory 1229
Boyun Zhang, Jianping Yin, Jingbo Hao, Shulin Wang, Dingxing Zhang and Wensheng Tang
An Efficient Watermarking Technique Using ADEW and CBWT for Copyright Protection 1233
Goo-Rak Kwon, Seung-Won Jung and Sung-Jea Ko
Frequent Tables for Fast K-Anonymization 1239
Xiaochun Yang, Xiangyu Liu, Bin Wang and Ge Yu
A New Forward Secure Threshold Signature Scheme 1243
Jia Yu, Fanyu Kong and Rong Hao

Cryptography

Efficient Implementation of Tate Pairing on a Mobile Phone Using Java 1247
Yuto Kawahara, Tsuyoshi Takagi and Eiji Okamoto
Identity-Based Key-Insulated Signature Without Random Oracles 1253
Jian Weng, Shengli Liu, Kefei Chen and ChangShe Ma
Proxy Ring Signature: Formal Definitions, Efficient Construction and New Variant 1259
Jin Li, Xiaofeng Chen, Tsz Hon Yuen and Yanming Wang
Ternary Tree based Group Key Management in Dynamic Peer Networks 1265
Wei Wang, Jianfeng Ma and SangJae Moon
Efficient and Secure Password-based Authenticated Key Exchange Protocol 1269
Shuhua Wu and Yuefei Zhu
A Verifiable Multiple-Players Enrollment Protocol for Threshold Schemes 1273
Jia Yu, Fanyu Kong and Rong Hao
Secure Threshold Order-Specified Multi-signature Scheme in MANET 1279
Muxiang Yang, Jun Li, Fan Hong and Li Su
Two Alternative Hardware Implementations for the M-ary Modular Exponentiation Pre-Processing 1283
Nadia Nedjah and Luiza de Macedo Mourelle
Design of Random Number Generation Algorithm 1287
Dawei Li, Yier Jin, Haibin Shen and Xiaolang Yan
Trust Negotiation with Trust Parameters 1291
Fuchun Guo, Zhide Chen and Yi Mu
Evolutionary Resilient Substitution Boxes for Secure Cryptography Using Nash equilibrium 1295
Nadia Nedjah and Luiza de Macedo Mourelle

Utilizing Evolutionary Computation Methods for the Design of S-Boxes 1299
Elena C. Laskari, Gerasimos C. Meletiou and Michael N. Vrahatis
New Countermeasures against Power Analysis Attacks for Koblitz Curve Cryptosystems 1303
Yong-hee Jang, Naofumi Takagi, Kazuyoshi Takagi and Yong-jin Kwon
Hardware/Software Co-Design of a Secure Ubiquitous System 1307
Masa-aki Fukase, Hiroki Takeda and Tomoaki Sato
Cryptanalysis of Mukherjee-Ganguly-Chaudhuri's Message Authentication Scheme 1311
Mun-Kyu Lee, Dowon Hong and Dong Kyue Kim
A New Parallel Multiplier for Type II Optimal Normal Basis. 1315
Chang Han Kim, Yongtae Kim, Sung Yeon Ji and IlWhan Park
Binary Sequences with Three and Four Level Autocorrelation. 1319
Ying Cai and Zhen Han
New Signature Schemes with Tight Security Reductions 1323
Haifeng Qian and Zhibin Li
Security Analysis of Public-key Encryption Scheme Based on Neural Networks and Its Implementing 1327
Niansheng Liu and Donghui Guo
An Efficient One-key Carter-Wegman Message Authentication Code 1331
Jin Xu, Dayin Wang, Dongdai Lin and Wenling Wu
The COFB Mode of Operation and Its Security Analysis 1335
Fengtong Wen, Jinguo Liu and Wei Shan
Research on a Novel Hashing Stream Cipher 1339
Yong Zhang, Xiamu Niu, Juncao Li and Chunming Li
Secure Password Authentication for Distributed Computing 1345
Seung Wook Jung and Souhwan Jung
A Novel ID-based Threshold Ring Signature Scheme Competent for Anonymity and Anti-forgery 1351
Zhen Yu Wu, Fuh Gwo Jeng and Tzer Shyong Chen
Quantum Key Distribution Protocols Using Entangled State 1355
Jian Wang, Quan Zhang and Chao-jing Tang
XTR+: A Provable Secure Public Key Cryptosystem 1359
Ze-hui Wang and Zhi-guo Zhang
Normal Forms and Normalization of Authentication Protocols 1363
Hongcai Tao and Dake He
Linkability Analysis of Some Blind Signature Schemes 1367
Jianhong Zhang
Cryptanalysis and Improvement of Choie et al.'s Authenticated Key Agreement Protocols 1371
Shengbao Wang and Zhenfu Cao
A Differential Power Analysis Attack of Block Cipher Based on the Hamming Weight of Internal Operation Unit 1375
JeaHoon Park, HoonJae Lee, JaeCheol Ha, YongJe Choi, HoWon Kim and SangJae Moon
Enhanced Security Scheme for Managing Heterogeneous Server Platforms 1381
Jiho Kim, Duhyun Bae, Sehyun Park and Ohyoung Song
Design of Smart Card-based Electronic Vita Using Proxy Signature Technique 1385
Rongxing Lu, Xiaolei Dong, Zhenfu Cao, and Licheng Wang
ID-Based (t,n) Threshold Proxy Signcryption for Multi-Agent Systems 1389
Fagen Li, Yupu Hu and Shuanggen Liu
A Parallel Key Generation Algorithm for Efficient Diffie-Hellman Key Agreement 1393
Yun Chen, Xin Chen and Yi Mu
Implementing Templates Security in Remote Biometric Authentication Systems 1396
Muhammad Khurram Khan and Jiashu Zhang

Intelligent Information Retrieval

PCA Based Shape Descriptors for Shape Retrieval and The Evaluations. 1401
Binhai Wang and J. Andrew Bangham
RSC: A Reliable High I/O Performance Storage Cluster for Multimedia Application 1407
Xu Li, Changsheng Xie and Zhongyan Feng
Application of the Character-Level Statistical Method in Text Categorization. 1412
Zhen Yang, Xiangfei Nie, Weiran Xu and Jun Guo
BP-based Intelligent Case Retrieval Method of High-rise Structure Form Selection 1418
Shihai Zhang, Xiushan Liang, Shujun Liu, Shihai Zhang and Jinping Ou

POC-NLW Template Based Tagging Method for Chinese Word Segmentation 1423
Bo Chen, Hui He, Weiran Xu and Jun Guo
An Efficient Algorithm for Clustering Search Engine Results 1429
Hui Zhang, Bin Pang, Ke Xie and Hui Wu
Fuzzy Semantic Retrieval of Distributed Remote Sensing Images 1435
Heng Sun, Shixian Li, Wenjun Li and Xiaoyong Mei
iOBS3: an iSCSI-based Object Storage Security System 1442
Jianzhong Huang, Changsheng Xie and Xu Li
Intelligent HTML to VXML Conversion using Automatic Object Extraction and Prior Structual Knowledge 1446
Young-Gun Jang
An Investment-Rewards Model Based Paralleled Information Search Strategy 1452
Danming Sun, Shuping Yao and Wu Peng
A New Web Usage Model for Information Retrieval 1456
Hong-fang Zhou, Bo-qin Feng, Hui Yue and Lin-tao Lv
Chinese-English Cross-Lingual Information Retrieval Based on Domain Ontology Knowledge 1460
Feng Yu, Dequan Zheng, Tiejun Zhao, Sheng Li and Hao Yu

Security Models, Analysis and Management

An Efficient Anonymous Fingerprinting Protocol 1464
Bo Yang, Piyuan Lin and Wenzheng Zhang
Traffic Measurements of BitTorrent System Based on Netfilter 1470
Bin Liu, Zhitang Li and Zhanchun Li
Combining Authentication with Role-Based Access Control Based on IBS 1475
Jin Wang, Jia Yu, Daxing Li and Zhongtian Jia
A Unified Access Control Infrastructure Using Attributes and Ontology in E-Learning Resource Grids 1481
Changqin Huang, Yonghe Wu, Zhanjie Wu and Zhiting Zhu
A Chaotic Masking Communication System With Better Performance 1487
Haoming Bao and Yi-sheng Zhu
A Security Violation Detection Method for RBAC Based Interoperation 1491
Xiyuan Chen, Di Wu, Jian Lin and Miaoliang Zhu
A Fuzzy Relation Trust Model in P2P System 1497
Fajiang Yu, Huanguo Zhang and Fei Yan
Study of One-way Hash Function to Digital Signature Technology 1503
Chuanhua Zhou, Baohua Zhao, Gemei Zhu and Wei Wei
A More Effective Voting Scheme Based on Blind Signature 1507
Lina Wang, Jingli Guo and Min Luo
Coinware for Multilingual Passphrase Generation and Its Application for Chinese Language Password 1511
Kok-Wah Lee and Hong-Tat Ewe
Knowledge Structure on Virus for User Education 1515
Madihah Saudi and Nazean Jomhari
Senior Executives Commitment to Information Security-from Motivation to Responsibility 1519
Jorma Kajava, Juhani Anttila, Rauno Varonen, Reijo Savola and Juha Röning
Security Contexts in Autonomic Systems 1523
KaiYu Wan and Vasu Alagar
Information Assurance Evaluation for Network Information Systems 1528
Xin Lü and Zhi Ma
Hierarchy Key Distribution Scheme for Conditional Access System in DTV Broadcasting 1532
Mengyao Zhu, Ming Zhang, Xiaoling Chen, Ding Zhang and Zhijie Huang
Multisensor Real-time Risk Assessment Using Continuous-time Hidden Markov Models 1536
Kjetil Haslum and André Årnes
A New Hierarchical Trusted Model for Wireless Sensor Networks 1541
Mingdi Xu, Ruiying Du and Huanguo Zhang
Study of Network Security Situation Awareness Model Based on Simple Additive Weight and Grey Theory 1545
Jibao Lai, Huiqiang Wang and Liang Zhu
B2B E-Commerce Security Modeling: A Case Study 1549
Han Zhang, Gerald Weber, William Zhu and Clark Thomborson
Simulation of Risk Propagation Model in Information Systems 1555
Young-Gab Kim, Dongwon Jeong, Soo-Hyun Park and Doo-Kwon Baik

Buffer Overflow Attacks Defending Using A Segment-based Approach 1559
Wei-Zhi Yang and Yu-An Tan
Mathematical Analysis of Active DDoS Defense Systems 1563
Zhongwen Li and Yang Xiang
An Alternative Approach to Confidentiality Analysis 1567
Xiaochao Zi, Lihong Yao and Li Pan
Image-adaptive Spread Transform Dither Modulation Using Human Visual Model 1571
Xinshan Zhu
A Novel Online Spam Filter Based on URLs and Maximum Entropy Model 1575
Yang Li, Bin-Xing Fang and Li Guo
A Segment Transmission Secure Routing Protocol for Wireless Sensor Networks 1579
Song Wen, Ruiying Du and Huanguo Zhang
Generalization of the Selective-ID Security Model for HIBS Protocols 1583
Jin Li, Xiaofeng Chen, Fangguo Zhang and Yanming Wang
Access Control and Authorization for Security of RFID Multi-Domain Using SAML and XACML 1587
Dong Seong Kim, Taek-Hyun Shin and Jong Sou Park

Image and Signal Processing

Object Contour Tracking Using the Optimization of the Number of Snake Points 1591
Shin-Hyoung Kim, Ashraf Alattar and Jong Whan Jang
Gray-Scale Skeletonization of Thermal Vein Patterns Using the Watershed Algorithm in Vein Pattern Biometrics 1597
Lingyu Wang and Graham Leedham
Extraction and Classification of Visual Evoked Potentials Based on a Two-Stage Source Extraction Algorithm 1603
Xiuling Wu, Liqing Zhang, Zhi-Lin Zhang and Wenjun Zhu
Research on Method for Compressing Historical Data Based on Wavelet Networks 1609
Peng Jiang and Qingbo Huang
A New Flame Detection Method Using Probability Model 1614
Jinhua Zhang, Jian Zhuang and Haifeng Du
Interactive B-spline Curve Modification by Using Energy Methods 1618
Kelun Tang, Xiangwei Zhang and Siyuan Cheng
Obstacle Detection in Unstructured Environment with a Single Camera and Linear Method 1624
Yehu Shen, Xin Du, Yunfang Zhu and Jilin Liu
An Unsupervised Particle Swarm Optimization Classifier for SAR Image 1630
Xiaohui Xu and An Zhang
An Improved Exact FBP Algorithm for Image Reconstruction in Cone-beam Helical CT 1635
Jianhua Ma and Wufan Chen
Fuzzy-C-Means Clustering Based On the Gray and Spatial Feature For Image Segmentation 1641
Ming Li and Yun-song Li
The Application of a New Entropy Function and Mutative Scale Chaos Optimization Strategy in Two-Dimensional Entropic Image Segmentation 1647
Cheng Ma, Chao Liu, Shaoxian Ma and Chengshun Jiang
Dynamic Terrain Visualization Method Using Strip Masks and Its Applications 1653
Xingquan Cai, Fengxia Li, Shouyi Zhan and Haiyan Sun
A Randomized Approach for Mid-range Aircraft Conflict Detection Based on the Unscented Particle Filter 1659
Yan Zeng, Jie Zhou and Yaoguo Wu
An Approach to Error Concealment for Entire Right Frame Loss in Stereoscopic Video Transmission 1665
Linjuan Pang, Mei Yu, Gangyi Jiang, Zhidi Jiang and Fucui Li
Analysis on Fisher Discriminant Criterion and Linear Separability of Feature Space 1671
Yong Xu and Guangming Lu
A Novel Video Object Spatial Segmenting Strategy Based on Morphological Filtering 1677
Yujian Wang, Jianpo Gao and Zhenyang Wu
Multiple Description Image Coding Using Directional Wavelet Transform in the Wavelet Domain and Based-RKF Interpolation 1683
Xin Li, Baocai Yin, Yunhui Shi and Dehui Kong
A New Algorithm for Extracting High-Resolution Face Image from Video Sequence 1689
Jianguo Lu, Anni Cai and Fei Su
Distributed Audio Coding in Wireless Sensor Networks 1695
Hui Dong, Jiangang Lu and Youxian Sun

Level Set Evolution Based Logic Fusion: A Novel Man-made Objects Segmentation from Radar Image 1700
Yun Yang and Hongchao Ma
A New Fuzzy Unsupervised Classification Method for SAR Images 1706
Lan Gao, Feng Pan and XiaoQuan Li
A Single Threshold Edge Detection Algorithm Based on Multiscale Fusion 1710
Yue-Liang Wan, Yuan-Da Cao and Dun Li
Remote Sensing Target Recognition Based on Contourlet and Kernel Fisher Discriminant 1716
Rui Hu, Licheng Jiao, Weida Zhou and Yi Gao
Shape Classification Based on Histogram Representation in Curvature Scale Space. 1722
Jinye Peng, Wanhai Yang and Yan Li
VCGE: Video Coding Grid Environment Using H.264 Video Compression Technologies 1726
Yang Tao, Zhiming Liu and Yuxing Peng
Estimation of Source Signals Number and Underdetermined Blind Separation Based on Sparse Representation 1730
Beihai Tan and Xiaolu Li
Signal Decomposition with Discontinuous and Continuous Bases 1734
Binhai Wang and J. Andrew Bangham
A Penalty Function Based Algorithm of Blind Separation 1738
Yuli Fu, Shengli Xie and Zhaoshui He
Nonlinear Process Monitoring Based on Improved Kernel ICA 1742
Rui Xing, Sanyuan Zhang and Lei Xie
On the Performance of Synchronous Multicarrier CDMA System over Frequency Selective Nakagami-m
Fading Channels with Combine Method 1747
Kwan Houng Lee and Dong You Choi
Frequency MMSE Equalization Combined with Kalman Channel Estimation in OFDM System. 1751
Qian Xiang and Xianhua Dai
Acceleration Technique for Volume Rendering Using 2D Texture Based Ray Plane Casting on GPU 1755
Kyung-Seok Oh and Chang-Sung Jeong
Improvement of Film Scratch Inpainting Algorithm Using Sobel Based Isophote Computation over Hilbert Scan Line. 1759
Ki-Hong Ko and Seong-Whan Kim
Wavelet Lossy Image Coding with Edge and Texture Preserving Using a Modified SPIHT 1763
Raúl Pinto Elías, Osslan O. Vergara Villegas and Máximo López Sánchez
A Low-Complexity Interleaved Image Wavelet Transform Architecture for a Visual Sensor Node 1767
L.M. Ang, L.S. Yeong and K.P. Seng
Iris Recognition: An Analysis of the Aliasing Problem in the Iris Normalization Stage 1771
Hugo Proenca and Luís A. Alexandre
Texture Classification Using Modulus Extremum of Wavelet Frame Representation 1775
Yu-Long Qiao and Sheng-He Sun
Image Denoising Using Hybrid Model with Edge Preserving Capability. 1779
Bo Chen, Jianhuang Lai and Pongchi Yuen
A Generalized Bedrosian Theorem in Fractional Fourier Domain 1785
Yingxiong Fu and Luoqing Li
The Research of Collision Avoiding System Based on Millimeter Wave and Image Processing Techniques 1789
Yang Ying and Wei Ximing
Image Conversion from Planar into Stereo: Random Variables 1793
Qingsheng Zhu, Ran Liu, Xiaoyan Xu, Li'ou Zhi, Xiaoyun Zhang, Hongbo Xie and Jun Yang
A Novel Method for Moving Object Detection in Intelligent Video Surveillance Systems 1797
Mingying Zhao, Jun Zhao, Shuguang Zhao and Yuan Wang
The Linear Minimum Mean-Square Error Estimation with Constraints and Its Applications 1801
Jie Zhou and Yunmin Zhu
Perspective Rectification of Document Images Base on Morphology 1805
Ligang Miao and Silong Peng
Image Denoising Based on Wavelet Support Vector Machine 1809
Shaoming Zhang and Ying Chen
Dam-based Evolutionary Image Segmentation Using Quality Function and Union-Find Set 1813
Weiqin Ying, Yuanxiang Li, Xing Xu and Xuewen Xia
Generalized Recursive Pre-/Post- Processing Framework for Near Lossless Compression of Image 1817
Dai-zhi Liu, Chang-song Qian and Shi-qi Huang
Solving a New Class of Variational Models for Image Decomposition via Projection. 1821
Min Li and Xiangchu Feng

An Accelerated Binary Segmentation of Brain Vasculature Using MRF Model 1825
J.T. Hao, M.L. Li and F.L. Tang
Head Related Transfer Function Personalization Based on Multiple Regression Analysis 1829
Hongmei Hu, Lin Zhou, Jie Zhang, Hao Ma and Zhenyang Wu
Study of the Wavelet Basis Selections 1833
Hua Cui and Guoxiang Song
A Novel Particle Filter Based Background Subtraction Method 1837
Enwei Zhang, Feng Chen and Weidong Zhang
Realization of Odometry System Using Monocular Vision 1841
Qiang Lv, Wenhui Zhou and Jilin Liu
Segement Based Stereo Matching Using Cooperative Hopfield Networks 1845
Wenhui Zhou, Zhiyu Xiang and Weikang Gu
Edge Detection Based on Mathematical Morphology and Iterative Thresholding 1849
Xiangzhi Bai and Fugen Zhou
Image Segmentation Based on Integrated Gradient Vector Field 1853
Jinye Peng, Wanhai Yang and Jingfang He
Face Pose Estimate and Multi-pose Synthesize by 2D Morphable Model 1857
Yingchun Li and Guangda Su
Particle Measurement by Image Processing and Analysis 1861
Weixing Wang, Wang Luo and Jun Tang
RBF Network Image Representation with Application to CT Image Reconstruction 1865
Ping Guo, Ming Hu and Yunde Jia