Session 1: Novel Algorithms

Feature Selection Based on Neighborhood Systems and Rough Set Theory .................................................................3
  Ming He
A Fuzzy AHP Approach to the Evaluation of PCM Model Based on PFSC in Aeronautical Subcontract Production .................................................................6
  Zhiqiang Jiang and Xilan Feng
A Hierarchical Text Clustering Algorithm with Cognitive Situation Dimensions .................................................................................................11
  Yi Guo, Zhiqing Shao, and Nan Hua
OR-transition Colored Petri Net and its Application in Modeling Software System ......................................................................................................................15
  Yong Yu, Tong Li, Qing Liu, Fei Dai, and Na Zhao
The CPVVA Evaluating Model Based on Improved DEA Model Optimized by CO Algorithm .........................................................19
  Zhibin Liu and Yongmei Ren
Research of Coal-Gas Outburst Forecasting Based on Artificial Immune Network Clustering Model .................................................................23
  Yu Zhu, Hong Zhang, and Ling-dong Kong
Research of Coal and Gas Outburst Forecasting Based on Immune Genetic Neural Network .................................................................28
  Yu Zhu, Hong Zhang, and Ling-dong Kong
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Application of RBF Neural Network on Construction Cost Forecasting</td>
<td>32</td>
</tr>
<tr>
<td>Zhigang Ji and Yajing Li</td>
<td></td>
</tr>
<tr>
<td>Modified Generalized Discriminant Analysis Using Kernel Gram-Schmidt</td>
<td></td>
</tr>
<tr>
<td>Orthogonalization in Difference Space for Face Recognition</td>
<td>36</td>
</tr>
<tr>
<td>Yunhui He</td>
<td></td>
</tr>
<tr>
<td>Research on Urban Public Traffic Satisfaction Evaluation Model Based on BP Neural Network Algorithm</td>
<td>40</td>
</tr>
<tr>
<td>Shaomei Yang and Lin Jia</td>
<td></td>
</tr>
<tr>
<td>Design and Implementation of University Focused Crawler Based on BP Network Classifier</td>
<td>44</td>
</tr>
<tr>
<td>Hua Jiang, Bing Han, Ying Lin, Dan Zuo, and Yong Xing Ge</td>
<td></td>
</tr>
<tr>
<td>Linking Direct Orthogonal Signal Correction and Wavelet Transform</td>
<td>48</td>
</tr>
<tr>
<td>with Radial Basis Function Neural Network to Analyze Overlapping Spectra</td>
<td></td>
</tr>
<tr>
<td>Shouxin Ren and Ling Gao</td>
<td></td>
</tr>
<tr>
<td>K-means Optimization Algorithm for Solving Clustering Problem</td>
<td>52</td>
</tr>
<tr>
<td>Jinxin Dong and Minyong Qi</td>
<td></td>
</tr>
<tr>
<td>Research on Edge Tracing Based on Scan-Line Algorithm</td>
<td>56</td>
</tr>
<tr>
<td>Weihua Wang</td>
<td></td>
</tr>
<tr>
<td>A Collaborative Filtering Recommendation Algorithm Based on Item</td>
<td>60</td>
</tr>
<tr>
<td>Similarity of User Preference</td>
<td></td>
</tr>
<tr>
<td>Tieli Sun, Lijun Wang, and Qinghe Guo</td>
<td></td>
</tr>
<tr>
<td>Research on the Electric Power Enterprise Performance Evaluation Based on Symbiosis Theory</td>
<td>64</td>
</tr>
<tr>
<td>Jinyu Tian and Yan Lin</td>
<td></td>
</tr>
<tr>
<td>Short-Term Electricity Price Forecasting Based on Rough Sets and Improved SVM</td>
<td>68</td>
</tr>
<tr>
<td>Jinyu Tian and Yan Lin</td>
<td></td>
</tr>
<tr>
<td>A Smart Design for the TAN Classifier</td>
<td>72</td>
</tr>
<tr>
<td>Lujie Shao, Zhihai Wang, and Shiqiang Wang</td>
<td></td>
</tr>
<tr>
<td>A Novel Heart Rate Detection Algorithm in Ballistocardiogram Based on Wavelet Transform</td>
<td>76</td>
</tr>
<tr>
<td>Jingjing Jin, Xu Wang, Shilong Li, and Yingnan Wu</td>
<td></td>
</tr>
<tr>
<td>Wavelet Transform Adaptive De-noising Algorithm and Application Based on a Novel Variable Step Function</td>
<td>80</td>
</tr>
<tr>
<td>Jingjing Jin, Xu Wang, Shilong Li, and Yingnan Wu</td>
<td></td>
</tr>
<tr>
<td>Steganalysis on Character Substitution Using Support Vector Machine</td>
<td>84</td>
</tr>
<tr>
<td>Xinxin Zhao, Liusheng Huang, Lingjun Li, Wei Yang, Zhili Chen, and Zhenshan Yu</td>
<td></td>
</tr>
<tr>
<td>Research on Tree Segmentation-based Ontology Mapping</td>
<td>89</td>
</tr>
<tr>
<td>Liansheng Li, Lihui Huang, Qinghua Guan, and Dezhi Xu</td>
<td></td>
</tr>
</tbody>
</table>
Research on the Multi-sensors Information Fusion Technique Based on the Neural Networks and its Application .................................................................................................................. 93
  Minghu Zhang, Hui Song, Shijun Lv, Youfeng Li, Xiaojuan Yu, and Jingyang Bao

A Statistical Model-Based Approach to NE Translation ........................................................................................................... 97
  Yu Wang

Personalized Recommendation Algorithm Using User Demography Information ......................................................................................................................................................... 100
  Yae Dai, Hong Wu Ye, and Song Jie Gong

A Self-adaptive Genetic Algorithm Based on Region Balance Variation .......................................................................................... 104
  Siyan Wang and Guoli Zhang

BTP Prediction Model Based on ANN and Regression Analysis ........................................................................................................... 108
  Bin Wang, Yan Fang, Jinfang Sheng, Weihua Gui, and Ying Sun

An Improved Neural Network Algorithm and its Application in Sinter Cost Prediction ............................................................. 112
  Bin Wang, Bin Yang, Jinfang Sheng, Mengsheng Chen, and Guoqiang He

Analysis Methods of Workflow Execution Data Based on Data Mining .......................................................................................... 116
  Feng Lei and Chen Hexin

Performance Evaluations of Listed Companies Based on Projection Pursuit by Real-coded Accelerating Genetic Algorithm .......................................................................................................................... 119
  Xin-li Wang

The Research on Safety Monitoring System of Coal Mine Based on Spatial Data Mining ......................................................................................................................................................... 126
  Chang’an Shao, Qiang Wu, and Xin Guan

The Study of Optimizing Model Based on Data Cluster of Information Fusion of Multiple Parameters ......................................................................................................................................................... 130
  Jie Sun and Tie-jun Zhang

Research of Fuzzy Neural Network Model Based on Quantum Clustering .......................................................................................... 133
  Jie Sun and Sheng-nan Hao

Wavelet Analysis on Crack Image of Coal Mining Roof .................................................................................................................. 137
  Tie-ju Zhang and Jie Sun

Symmetrical 2DLDA Using Different Measures in Face Recognition .......................................................................................................................... 140
  Jicheng Meng and Li Feng

Multi-label Classification with ART Neural Networks ......................................................................................................................................................... 144
  Elena P. Sapozhnikova

Using Genetic Algorithm for Prediction of Information for Cache Operation in Mobile Database ......................................................................................................................................................... 148
  Hossein Beigi Harchegani, Ahmad Farahi, Hossein Mozdorani Shirazi, Amin Golabpour, and Peyman Almasinejad
Session 2: Knowledge Discovery and Data Mining

Construction and Application of the Decision Tree Model for Agricultural Land Grading Based on MATLAB .............................................................. Lu Zhao, Xinqi Zheng, Hongwen Yan, Shuqing Wang, and Kouqiang Zhang 155

Research of GIS-based Spatial Data Mining Model ........................................................... Jinlin Wang, Xi Chen, Kefa Zhou, Haibo Zhang, and Wei Wang 159

Conceptual Design Knowledge Retrieval, Reuse and Innovation Based on Case and Constraint .......................................................... Kai-zhou Gao, Quan-ke Pan, and Qiang-qiang Sun 163

Study on the Risk Prediction of Real Estate Investment Whole Process Based on Support Vector Machine .................................................. Wanqing Li, Yong Zhao, Wenqing Meng, and Shipeng Xu 167

Output Prediction Model in Fully Mechanized Mining Face Based on Support Vector Machine ................................................................. Wanqing Li, Yong Zhao, Wenqing Meng, and Shipeng Xu 171

Research on Retrieval of MES Components Based on Ontology ........................................... Wen Long 175

Promoting Data Mining Methodologies by Architecture-Level Optimizations .................. Xin Ge, Enjie Ding, and Hongxia Xie 179

Research on Establishment of Evaluation Model of Accounting for Safety Resources Based on Technology of Data Mining ................................. Enzhi Li 183

Based on the Possibility of an Association Rule Mining Algorithm .................................. Zhi-Wei Xu, Xue-Feng Zhang, and Hai-Wang Zhang 187

Research on Content-awareness Protocol of Knowledge Communication Based on Ontology ................................................................. Li Wang, Liqing Liu, and Gaoxia Hu 191

Improvement of Prediction Ability of Multicomponent Regression Model by a Method Based on Data Mining in Chemometrics .................. Ling Gao and Shouxin Ren 195

A Novel RS-based Key Frame Representation for Video Mining in Compressed-Domain ............................................................. Xiang-wei Li, Ming-xin Zhang, Ya-lin Zhu, and Jin-hong Xin 199

Privacy Preserving Attribute Reduction Based on Rough Set .......................................... Zhengyou Zhou, Liusheng Huang, and Ye Yun 202

Study on Statistical Model of Reparable System Failure Data ........................................... Qingtian Han and Xiaoyan Gao 207

Research of Distributed Algorithm Based on Usage Mining ............................................ Qingtian Han and Xiaoyan Gao 211
Research of Decision Support System Based on Data Warehouse Techniques ........................................ 215
    Qingtian Han and Xiaoyan Gao

Modeling of Evolving Knowledge Network with Node Deletion ......................................................... 219
    Hai-yan Shan and Wen-ping Wang

An Association Rule Algorithm Based on Quotient Space ................................................................. 223
    Yueqin Zhang, Qingwei Yan, and Lili Zong

Collaboration in Knowledge Sharing and Developing in Inbound Logistics Outsourcing from Manufacturers Perspective ................................................................. 227
    Zong Tao and Han Min

Bibliometric Analysis of Data Mining in the Chinese Social Science Circle ............................................. 231
    Chao Li and Jian Ke

A Study on the Intelligent CAD Technology of Body Welding Jig Based on the Knowledge ........................................ 235
    Xiaoping Xiong, Quandong Jin, and Pingping Jiang

Process Mining: Algorithm for S-Coverable Workflow Nets ................................................................. 239
    Jianchun She and Dongqing Yang

Association Classification Based on Compactness of Rules ................................................................. 245
    Qiang Niu, Shi-Xiong Xia, and Lei Zhang

A Study on Blog Based Personal Knowledge Management ............................................................................. 248
    Gang Li and Yi Li

Comparison of Tools for Data Mining and Retrieval in High Volume Data Stream ........................................ 252
    Mohammed A. Qadeer, Nadeem Akhtar, and Faraz Khan

Grey Evaluation Method of Knowledge Management Capability ......................................................... 256
    Wenshan Zheng and Yangcheng Hu

KDGT: Knowledge Discovery in Game Theory ......................................................................................... 261
    Ganesh Kumar. M, Anoop Sunke, Ganesh. S, and Avinesh. D

Session 3: Communication, Control, and Circuit System

Visualizing the Result of Fuzzy Clustering Using GIS ............................................................................. 267
    JingDong Tan, RuJing Wang, and BingYu Sun

Design of Intelligent Traffic Light Controller Based on VHDL ............................................................ 272
    Shi Shuo, Hongli Tian, and Yandong Zhai

A Model of Distributed Interprocess Communication System .............................................................. 276
    Peng Xiao, Yuanyuan Li, and Wu Deng

A Novel Method for Evaluating Trustworthiness between Strangers in Large, Dynamic Ad Hoc Networks ....................................................................................................................... 280
    Yanhui Ding, Qingzhong Li, and Feifei Li

Applying an Intrusion Detection Algorithm to Wireless Sensor Networks .............................................. 284
    Qi Wang, Shu Wang, and Zhonglou Meng
Study on Controlling Process by X-H Method of Reversible Tandem Rolling .............................................288
Xianzhang Feng, Zhiqiang Jiang, Haodong Luo, Cai Liu, and Junhui Li

Study on Head Regional of Hot Forming for Wide-Thick Plate .................................................................292
Xianzhang Feng, Junwei Cheng, Aimin Liu, Cai Liu, and Junhui Li

Design of Sliding Mode Controller with Low-Pass Filter for Robot Manipulators .................................................................296
Jianwu Zhu, Dachang Zhu, and Jinbao Cai

Weak Signal Detection Based on Chaotic Prediction ..............................................................................300
Junyang Pan, Jinyan Du, and Shie Yang

Design on the Fault Diagnostic System Based on Virtual Instrument Technique ................................................304
Shijun Lv, Minghu Zhang, Youfeng Li, and Xiaojuan Yu

The Forecast of Power Demand Cycle Turning Points Based on ARMA .............................................................308
Shu Xia Yang

A Security Architecture for Tactical Mobile Ad Hoc Networks .........................................................................312
Hengjun Wang, Yadi Wang, and Jihong Han

Design of Control Circuit of Seawater Treatment System Based on Microprocessor ........................................316
Yanping Gao, Xianjiu Guo, and Xianqiang Lv

Development and Research of HVDC Light System Based on DSP ........................................................................319
Yanping Gao, Xianqiang Lv, and Xianjiu Guo

A Novel FPGA Mathematical Technology Based AI-Fuzzy VCN Algorithm of Automation ..................................................323
Ting-Fang Zhang and Qiu-Sun Ye

An Automation Dynamic Testing Method Based AI-Controlling of VCR ......................................................327
Qiu-Sun Ye and Ting-Fang Zhang

RFID Enhancement in Road Traffic Analysis by Augmenting Receiver with TelegraphCQ ........................................331
Faraz Khan, Nadeem Akhtar, and Mohammed A. Qadeer

A Useful COFDM Demodulator for DVB-T .........................................................................................335
Hong Li Zhu, Guang Chun Gao, and Gang Bi

An Efficient Viterbi Decoder for Digital Mobile Multimedia Broadcasting Receiver ..............................................339
Hongli Zhu, Guangchun Gao, and Gang Bi

A Resilient In-Network Data Aggregation Scheme for Wireless Sensor Networks Based on Interleaved Authentication ..................................................343
Wei Li and Qiaoliang Li

Automatic Control System of Water Conservancy Project Model Based on Multi Agent ........................................349
Junhu Yang, Lizhi Yang, Tinghong Zhao, and Zhiqiang Jia
Session 4: Management Science and Engineering

Model Design for Transmission Congestion Management Based on Fuzzy Programming .......................................................... 355

Yu Zhao, Bo Zhao, and Chunjie Qi

Simulation Model for the Studying of the Self-organizing Team .......................................................... 359

Jing Li and Yuejin Zhou

Research on Growing-up Mechanism and Fostering of Venture Enterprise Based on Knowledge Management .......................................................... 364

Qing Yang, Yanling Yu, and Wenjun Chen

Evaluation of Foreign Exchange Risk Based on Financial Data Mining: Evidence from Iron and Steel Industry in China .......................................................... 368

Yaqiong Pan

SDM Techniques Based on TGSOM and its Application in R&D Performance Evaluation .......................................................... 372

Zhibin Liu and Hanxiang Hu

Research on the Process of Urbanization Based on the Comparison of China’s 35 Major Cities’ Urbanization Levels .......................................................... 376

Xin Liu and Wei-dong Li

Can Mutual Fund Really Pick Stocks? A Bootstrap Analysis .......................................................... 381

Ning Xu and Zhi-xin Liu

Identification Model of Logistic Regression Analysis on Listed Firms' Frauds in China .......................................................... 385

Xiaoxin Chen and Rong Ye

Bank Lending, Inventory Financing and Trade Credit .......................................................... 389

Zhonghua Ma and Daoli Zhu

Measurement Equivalence in Cross-Culture Research: Concept, Bias Resource and Test Method .......................................................... 393

Xianfang Xue

An Empirical Research on the Relationship between Leadership and Personal Initiative .......................................................... 397

Xianfang Xue

Oil Refining Enterprise Performance Evaluation Based on DEA and SVM .......................................................... 401

Jiekun Song and Zaixu Zhang

The Application of Multiple Regression Analysis Forecast in Economical Forecast: The Demand Forecast of Our Country Industry Lavation Machinery in the Year of 2008 and 2009 .......................................................... 405

Bin Xia and Cang Zhao

Empirical Research of the Relationship between Characteristics of Supervisory Board and Earnings Quality .......................................................... 409

Bin Xia and Cang Zhao
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on the Combinational Evaluation of the Market Value of Listed Company</td>
<td>413</td>
</tr>
<tr>
<td>Nian-chu Zeng and Wei-dong Li</td>
<td></td>
</tr>
<tr>
<td>Research on the Technological Innovation Diffusion Based on</td>
<td></td>
</tr>
<tr>
<td>the Self-organization Theory: The Case of China Communication Industry</td>
<td>418</td>
</tr>
<tr>
<td>Rui Li and Xiaofeng Ju</td>
<td></td>
</tr>
<tr>
<td>Research on Flexibility of the Workflow Reference Model</td>
<td>422</td>
</tr>
<tr>
<td>Zhuo-yuan Xiang and Tian-hen Pan</td>
<td></td>
</tr>
<tr>
<td>The Study of Partners' Selection for Virtual Logistics Enterprises</td>
<td>428</td>
</tr>
<tr>
<td>Dashen Xue</td>
<td></td>
</tr>
<tr>
<td>Research on Money, Inflation and Economic Growth in China Based on DAG</td>
<td>432</td>
</tr>
<tr>
<td>Naipeng Hu and Qiwen Zhang</td>
<td></td>
</tr>
<tr>
<td>Research on Consumption Model about Urban Households Based on Keynes’</td>
<td></td>
</tr>
<tr>
<td>Absolute Income Hypotheses in China</td>
<td>436</td>
</tr>
<tr>
<td>Junping Zhao</td>
<td></td>
</tr>
<tr>
<td>The Efficiency Variations of Chinese Feed-processing Enterprise of Different Ownership Structures: 2002-2005</td>
<td>440</td>
</tr>
<tr>
<td>Aimin Wang</td>
<td></td>
</tr>
<tr>
<td>Research on the Adoption of Electronic Commerce Based on Customer’s Behavior</td>
<td>444</td>
</tr>
<tr>
<td>Yuantao Jiang and Yuqin Sun</td>
<td></td>
</tr>
<tr>
<td>The Dynamic Competition Diffusion Model of B2C E-commerce in Potential Customers</td>
<td>448</td>
</tr>
<tr>
<td>Yuantao Jiang and Zhisheng Li</td>
<td></td>
</tr>
<tr>
<td>Research of Model about Leaguer Selecting of Virtual Enterprise Based on Project Logistics</td>
<td>452</td>
</tr>
<tr>
<td>Bo Jiang, Kelin Xu, and Yongchang Qian</td>
<td></td>
</tr>
<tr>
<td>Study on Dynamic Mechanism of Enterprise Distributed Innovation</td>
<td>456</td>
</tr>
<tr>
<td>Guoxin Liu, Xia Li, and Xiaoqin Gao</td>
<td></td>
</tr>
<tr>
<td>An Analysis of the Impact Chinese and Western Cultural Values Have on Technological Innovation</td>
<td>460</td>
</tr>
<tr>
<td>Yanling Yu and Qing Yang</td>
<td></td>
</tr>
<tr>
<td>The Symbiotic Relationship between Coal Mining Machinery Enterprises and Coal Mining Enterprises in China</td>
<td>464</td>
</tr>
<tr>
<td>Fei Wang</td>
<td></td>
</tr>
<tr>
<td>Empirical Analysis and Countermeasures Research on Corporate Credit—Taking Listed Companies of Anhui Province as an Example</td>
<td>468</td>
</tr>
<tr>
<td>Malin Song</td>
<td></td>
</tr>
<tr>
<td>Application Research of Design Patterns in Virtual Trade Platform</td>
<td>472</td>
</tr>
<tr>
<td>QingSheng Wang, Wen Gao, and YueQin Zhang</td>
<td></td>
</tr>
</tbody>
</table>
Research on Green Effect of Eco-industrial Parks and its Formation
Mechanism of Strategic Alliances’ Stability ................................................................. 476
   Li Yang and Malin Song
Activities in Emergency Management: Evidence from Case Study .................................. 480
   Ashir Ahmed and Lyfie Sugianto
Objective Cluster Analysis in Value-Based Customer Segmentation Method ......................... 484
   Hengjun Zhao and Changzheng He
The Study of Process Management Modeling Technology for Product Development .................. 488
   Lei Feng and Hexin Chen
Economic Analysis of Social Sharing of Computer: Taking Teaching-use Computer Resource of Chinese University as an Example .......................................................... 492
   Jianwei Zheng and Jianfeng Chen
The Construction and Analysis of Enterprise External Competitive Advantage Function Based on Knowledge Network in Urban Agglomerations ........................................... 496
   Jianfeng Chen and Jianwei Zheng
The Application of Regression Analysis in Correlation Research of Economic Growth in Jilin Province and Regional Income Distribution Gap .................................................. 500
   Shaojie Zhang and Yanhua Wu
Bicluster Algorithm and Used in Market Analysis ............................................................ 504
   Shuyong Liu, Yan Chen, Ming Yang, and Rui Ding
Knowledge Management Performance Evaluation for Chinese Shipping Enterprise Based on Innovating Assets .................................................................................. 508
   Dehai Liu, Zhenfeng Liu, and Libo Qu
Monetary Policy Rule in Transitional China: A Selection Based on the Result of Simulation .......................................................... 513
   Li Li and Liu Yang
Money Shock in Dynamic Stochastic General Equilibrium Models .................................... 517
   Liu Yang and Li Li

Session 5: Information Processing and Security
Software-Intensive Equipment Fault Diagnosis Research Based on D-S Evidential Theory .......................................................... 523
   Peng Zhao, Xiaodong Mu, Zhaoxiang Yi, and Zongrun Yin
Application of an Improved Particle Swarm Optimization for Fault Diagnosis ....................... 527
   Chu-Jiao Wang and Shi-Xiong Xia
A Comment to the Intelligent Functions of Different Weight Ciphers .................................... 531
   Lan Luo, ZhGuang Qin, and ShiJie Zhou
A Novel Approach to Classify Imbalanced Dataset Based on Rare Attributes and Double Confidences .................................................................................. 535
   Yingjie Li and Yixin Yin
Towards Suspicious Behavior Discovery in Video Surveillance System .......................................................... 539
  
  Yingjie Li and Yixin Yin

Research of NIDS in IPV6 Based on Protocol Analysis and Pattern Matching .................................................. 542
  
  Shu-qiang Huang, Huan-ming Zhang, and Guo-xiang Yao

Intelligent Content Filtering Model for Network Security Audit System ......................................................... 546
  
  Junliang Zhang, Dingyi Fang, and Li Liu

A Frame of Operational Risk Management System Based on Case-Based Reasoning ......................................... 549
  
  Qian Chen, Jinlin Li, and Lun Ran

Three New Approaches to Privacy-preserving Add to Multiply Protocol and its Application ...................................... 554
  
  Youwen Zhu, Liusheng Huang, Wei Yang, Dong Li, Yonglong Luo, and Fan Dong

Algebraic Immunity of Even Variable Symmetric Boolean Functions .................................................................... 559
  
  Weiqiang Zhang and Ruihu Li

Study on Commercial Banks Credit Risk Based on AGA and Camel Rating System ............................................. 562
  
  Shaomei Yang and Junyan Zhao

Agent Implementing Mode of Information Security Grid ...................................................................................... 566
  
  Hu Ruo and Xie Zan Fu

A Strong Designated-verifier Proxy Signature Scheme .......................................................................................... 569
  
  Bo Zhang and Qiuliang Xu

Certificateless Proxy Blind Signature Scheme from Bilinear Pairings ..................................................................... 573
  
  Bo Zhang and Qiuliang Xu

Image Watermarking Based on Video Series Against Shearing ........................................................................... 577
  
  Minghui Deng

The Reliability Assessment of Legal Reasoning with Evidence Theory ................................................................. 582
  
  Ping Wang and Xuemei Zhu

Feature Selection for the Stored-grain Insects Based on PSO and SVM ............................................................... 586
  
  Hongtao Zhang and Hanping Mao

Establishment of Rape Leaf Moisture Content Spectral Character Models Based on RSR-PCA Method ............. 590
  
  Xiaodong Zhang and Hanping Mao

Research on Eye-gaze Tracking Network Generated by Augmented Reality Application ...................................... 594
  
  Ming Chen, Yimin Chen, Zhengwei Yao, Wei Chen, and Yijun Lu

EDS2DCC: A Method of Eliminating Direct Super-class to Detect Cycle of Concepts .......................................... 598
  
  Kairong Li, Weiying Gao, Hui Zhang, Xiaoyan Liu, and Shijin Shao

A Novel Region-based Image Annotation Using Multi-instance Learning ......................................................... 602
  
  Xiaohong Hu, Xu Qian, Xinming Ma, and Ziqiang Wang
<table>
<thead>
<tr>
<th>Research Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on Optimizing Security Investment Combination Based on PSO</td>
<td>606</td>
</tr>
<tr>
<td>Zehong Li and Wei Ni</td>
<td></td>
</tr>
<tr>
<td>A Case Study on Government Procurement Processes Identifying</td>
<td>610</td>
</tr>
<tr>
<td>Ranzhe Jing and Jianwei Yu</td>
<td></td>
</tr>
<tr>
<td>A Fast and Configurable Pattern Matching Hardware Architecture for Intrusion</td>
<td>614</td>
</tr>
<tr>
<td>Detection</td>
<td></td>
</tr>
<tr>
<td>Yizhen Liu, Daxiong Xu, Dong Liu, and Lingge Sun</td>
<td></td>
</tr>
<tr>
<td>Quantum Secret Sharing Based on Entanglement without Local Unitary Operations</td>
<td>619</td>
</tr>
<tr>
<td>Yunyan Yang, Guisheng Yin, and Tingquan Deng</td>
<td></td>
</tr>
<tr>
<td>An Efficient Hierarchical Method for Image Shadow Detection</td>
<td>622</td>
</tr>
<tr>
<td>Bin Rao, Gang Zheng, Tiemin Chen, Jian Huang, and Xi Shao</td>
<td></td>
</tr>
<tr>
<td>Research on Segmentation Methods of Weed and Soil Background Under HSI Color</td>
<td>628</td>
</tr>
<tr>
<td>Model</td>
<td></td>
</tr>
<tr>
<td>Dong-ming Li, Yuan-zhi Wang, and Bo Du</td>
<td></td>
</tr>
<tr>
<td>Research on Data Protection System in Computer Network</td>
<td>632</td>
</tr>
<tr>
<td>Ying Li, Guifen Zhao, and Tong Liu</td>
<td></td>
</tr>
<tr>
<td>Security Scheme for Online Banking Based on Secret Key Encryption</td>
<td>636</td>
</tr>
<tr>
<td>Xiangyi Hu, Guifen Zhao, and Guanming Xu</td>
<td></td>
</tr>
<tr>
<td>Study on an Improved Extended-RBAC Model</td>
<td>640</td>
</tr>
<tr>
<td>Xuewang Zhang and Yulin Zhang</td>
<td></td>
</tr>
<tr>
<td>Unifying Density-Based Clustering and Outlier Detection</td>
<td>644</td>
</tr>
<tr>
<td>Yunxin Tao and Dechang Pi</td>
<td></td>
</tr>
<tr>
<td>VLD Design for AVS Video Decoder</td>
<td>648</td>
</tr>
<tr>
<td>Wei Liu and Yong-en Chen</td>
<td></td>
</tr>
<tr>
<td>Structured Topology for Trust in P2P Network</td>
<td>652</td>
</tr>
<tr>
<td>Biao Cai, Zhishu Li, Die Fu, Liangyin Cheng, and Sida Luo</td>
<td></td>
</tr>
<tr>
<td>A Novel Dynamic Particle Swarm Optimization Algorithm Based on Chaotic</td>
<td>656</td>
</tr>
<tr>
<td>Mutation</td>
<td></td>
</tr>
<tr>
<td>Min Yang, Huixian Huang, and Guizhi Xiao</td>
<td></td>
</tr>
<tr>
<td>Fingerprint Image Compression Based on Directional Filter Banks and TCQ</td>
<td>660</td>
</tr>
<tr>
<td>Song Zhao and Xiao-Fei Wang</td>
<td></td>
</tr>
<tr>
<td>Based on the Adaptive Noise Three-dimensional Mesh Digital Watermark Removal</td>
<td>664</td>
</tr>
<tr>
<td>Algorithms</td>
<td></td>
</tr>
<tr>
<td>Xincuan Cui and Xingqiang Yang</td>
<td></td>
</tr>
<tr>
<td>The Evaluation Index System and Method of Sustainable Uranium Development</td>
<td>668</td>
</tr>
<tr>
<td>Chenggang Gong and Songlin Liu</td>
<td></td>
</tr>
<tr>
<td>A Novel Blind Watermarking Scheme in Contourlet Domain Based on Singular</td>
<td>672</td>
</tr>
<tr>
<td>Value Decomposition</td>
<td></td>
</tr>
<tr>
<td>Shao-min Zhu and Jian-ming Liu</td>
<td></td>
</tr>
</tbody>
</table>
A Practical VCR Technique of Preventing Computer Viruses’ Creeping in Networks .................................................................................................................................................................................................676

Qiu-Sun Ye

Colored Petri Nets Based Modeling of Information Flow Security ........................................................................................................................................................................................................................................681

Weiguo Li, Ruoyu Wu, and He Huang

Data Retrieval and Security Using Lightweight Directory Access Protocol ........................................................................................................................................................................................................................................685

Mohammad Salim, M. Sana Akhtar, and Mohammed A. Qadeer

Hierarchical Clonal Selection Algorithm for Multistage Pumping Station Optimization Operation Problem ........................................................................................................................................................................689

Fu Duan, Xiaojin Li, and Jietong Peng

Integrating Innate and Adaptive Immunity for Worm Detection ........................................................................................................................................................................................................................................693

Junmin Zhang and Yiwen Liang

Manifold Alignment via Local Block Coordinate ........................................................................................................................................................................................................................................697

Gelan Yang, Xue Xu, and Li Tu

Blind Mesh Watermarking Based on the Featured Points in the Frequency Domain ........................................................................................................................................................................................................................................701

Guangfu Ren, Caiming Zhang, and Xingqiang Yang

A Novel Robust 3D Mesh Watermarking Ensuring the Human Visual System ........................................................................................................................................................................................................................................705

Dazhi Han, Xingqiang Yang, and Caiming Zhang

Applying Multi-Swarm Accelerating Particle Swarm Optimization to Dynamic Continuous Functions ........................................................................................................................................................................................................................................710

Yi Jiang, Wei Huang, and Li Chen

Session 6: Intelligent System and Web Application

Exploration of Virtual Avatar Technology Based on VRML and Java ........................................................................................................................................................................................................................................717

Duan Xinyu and Jiang Pin

Design of Teacher E-portfolio System for Teacher Professional Development ........................................................................................................................................................................................................................................721

Duan Xinyu and Li Min

A Multi Agent Architecture Based on PGN-AO Model ........................................................................................................................................................................................................................................725

Jun Hu, Shen Huang, and Jeanine Umugwaneza

Modeling and Simulation of Container Terminal Logistics System ........................................................................................................................................................................................................................................729

Li Li and Xiaodong Wang

Prediction by Integration of Phase Space Reconstruction and a Novel Evolutionary System under Deregulated Power Market ........................................................................................................................................................................................................................................733

Wenyu Zhang, Jinxing Che, Jianzhou Wang, and Jinfao Liang

Services-Oriented CRM System and Enabling Technologies for Insurance Enterprises ........................................................................................................................................................................................................................................737

Yongbin Huang and Jianfeng Wang

Web Source Evaluation and Selection by Mass Collaboration ........................................................................................................................................................................................................................................741

Yanhui Ding, Qingzhong Li, and Yongquan Dong
Study on Evolutionarily Stable Strategies (ESS) in SME Clusters ................................................................. 745

Enping Shen and Zuobing Fan

Semantic Similarity between Concepts Based on OWL Ontologies ................................................................. 749

Min Xiao, Luo Zhong, and Qianxing Xiong

Network Fault Diagnosis Using Hierarchical SVMs Based on Kernel Method ...................................................... 753

Li Zhang, Xiangru Meng, and Hua Zhou

The Information Management System of County Distribution Based on GIS ..................................................... 757

Dong-ming Li, Yuan-zhi Wang, and Yan Zhang

Rough Relational Operators and Rough Entropy in Rough Relational Database .................................................. 761

Feng Jiang and Guozhu Liu

Research on File Content Tamper-proofing System for Distribution Environment ................................................ 765

Tong Liu, Jiya Jiang, and Ying Li

Combining Singular Value Decomposition and Item-based Recommender in Collaborative Filtering ............... 769

SongJie Gong, Hongwu Ye, and YaE Dai

Aggregation of Information Resources on the Invisible Web .................................................................................. 773

Gang Li and Guangzeng Kou

Auto-recognizing DBMS Workload Based on C5.0 Algorithm ......................................................................... 777

Zhixian Niu, Lili Zong, Qingwei Yan, and Zhenxing Zhao

The Workload Adaptation in Autonomic DBMSs Based on Layered Queuing Network Model ........................... 781

Yan Qiang, Yi Li, and Junjie Chen

A Research on QoS-based Ontology Model for Web Services Discovery ............................................................. 786

Hui Zhang and Weiying Gao

K-means Clustering Algorithm with Improved Initial Center ............................................................................... 790

Chen Zhang and Shixiong Xia

Modeling and Forecasting of Urban Logistics Demand Based on Support Vector Machine ............................... 793

Meijuan Gao and Qian Feng

An Extended Vector Space Model for XML Information Retrieval .................................................................... 797

Yongming Guo, Dehua Chen, and Jiajin Le

Session 7: Other Topics

Evaluation of Water Quality Using Grey Clustering ........................................................................................... 803

Changjun Zhu and Qinghua Liu

On the Classification of Some Three Dimensional Quaternary Optimal Self-orthogonal Codes .......................... 806

Xuejun Zhao, Yingjie Lei, and Ruihu Li

Predictable Real-Time Java Profile Based on RTSJ ............................................................................................ 811

Yongxian Jin
A Novel Parallel Manipulator for Rotary Humanoid Wrist Based on Screw Theory ........................................................................................................................................................................816

Guoxin Zhang, Song Zhu, Dachang Zhu, and Cui Wu

Vehicle Detection Based on Adaptive Background .................................................................821

Bao-xia Cui, Shang-min Sun, and Yong Duan

Improvement on Parallel AQPSO Using the Best Position .....................................................825

Yan Ma, Yang Liu, Deyun Yang, and Yuping Chen

Realization of Depth-first Search Based AI Properties of VCR ..............................................829

Qiu-Sun Ye

Study on Parameter Distribution in Structure Reliability Analysis: Machine Learning Algorithm and Application .................................................................833

Yi Wan and Yangu Zhang

Realization of Breadth-first Searches Based AI Properties of VCN ..................................837

Qiu-Sun Ye

Utilizing Multi Agent Simulation to Explore Cities ...............................................................841

Jinfeng Ma, Feng Mao, and Wensheng Zhou

A Service Selection Method of Non-critical Task in Parallel Structure ................................846

Hong-ning Zhu, Bin Zhang, and Xian-wen Gao

Intrusion Detection Method Based on Wavelet Neural Network .............................................851

Jianjing Sun, Han Yang, Jingwen Tian, and Fan Wu

Design and Application of Water Displacing Oil Physical Simulation System

Based on Radial Basic Function Network ..............................................................................855

Jingwen Tian, Erhong Lu, and Meijuan Gao

Improved Hierarchical Network Model Based on Pastry Scheme ........................................859

Jun Chen and Lei Wang

Inverse Analysis of Rock Displacement Based on Improved MSM-PGA ...............................863

Guiquan Bi, Ning Li, Xingyan Cheng, and Tinghong Zhao

Satellite Orbit Determination Based on Stahel–Donoho Kernel Estimator ..............................867

Xiaogang Pan and Haiyin Zhou

Impasse-Driven Learning in the Context of Video Games in Chinese Players .........................872

Xuemin Zhang, Xin Luo, Fran C. Blumberg, Zijiao Shen, and Chunhui Su

Study on the Synchronizing Mechanism of Node’s Metadata Catalog Service .......................877

Xian-Gang Luo, Xiao-Hui Liu, Zhong Xie, and Gui-Zhou Zheng

The Organization and Scheduling of Massive Grid Geographic Data .....................................882

XianGang Luo, Qi Ma, and Zhong Xie

The Summary of MAPGIS Building Platform System ............................................................886

Jin Luo, Xiao-Fang Zu, and Xin-Cai Wu

Popularized Spatial Information Service Platform Based on Multi-Major GIS ........................890

Jin Luo, Dian-Hong Wang, Xiao-Fang Zu, and Fa-Yong Zhang
HVAC Fault Diagnosis System Using Rough Set Theory and Support Vector Machine .......................................................... 895
Xuemei Li, Ming Shao, and Lixing Ding

Water Quality Prediction Using LS-SVM and Particle Swarm Optimization ................................................................. 900
Yunrong Xiang and Liangzhong Jiang

Multi-layer Intelligent Encapsulation of Manufacturing Resources for MAS-based Distributed Manufacturing System ........................................ 905
Yan Cao, Jiang Du, Yu Bai, Lina Yang, and Yanli Yang

A Novel P2P Traffic Identification Scheme Based on Support Vector Machine Fuzzy Network ................................................................. 909
Zhong Gao, Guanming Lu, and Daquan Gu

Classification Using a Novel Combined Classifier for Digital Modulations in Digital Television Communication ......................................... 913
Zhong Gao, Guanming Lu, and Daquan Gu

Research and Design of PINS Simulator Based on UnderWater Vehicle Space Model ................................................................. 917
Jian-hua Cheng, Xu-hong Cheng, Xin-zhe Wang, and Yan-ling Hao

Small Structure State Detection with Fiber-optic Sensors and Neural Network ................................................................. 921
Xiaosong Sun

Assessment of Environmental Effect of Chinese Foreign Trade Based on Rough Sets and SOM Nerve Network ........................................ 925
Jinana Zhao, Zhao Xu, and Zhuozheng Wu

Research on Personalized Sports Teaching Network Resources System ................................................................. 929
Luo Qi and Bin Wang

Ontology-oriented Petri Net Model of Semantics Service Composition ................................................................. 932
Xiaoping Yang and Xiangbing Zhou

Customer Value Assessment with Interval Numbers Based on Max-Entropy and TOPSIS ................................................................. 937
Quan Zhang, TieYuan Yin, and Wei Jia

Research on 6-DOF Motion Platform on PMAC ................................................................. 941
Jin-Ping Zuo and Shu-Jin Tang

Multi Relational Rules Mining in Data Warehouse ................................................................. 944
Youdong Zhang

CTMIR: A Novel Correlated Topic Model for Image Retrieval ................................................................. 948
Jian Wen Tao and Pei Fen Ding

Author Index ....................................................................................................................................................... 952