

# Table of Contents

## Applications of Web Information Systems

An Improving Multi-Objective Particle Swarm Optimization .....	1
<i>JiShan Fan</i>	
Study on RSA Based Identity Authentication Algorithm and Application in Wireless Controlling System of Aids to Navigation .....	7
<i>Fu-guo Dong and Hui Fan</i>	
Invariant Subspaces for Some Compact Perturbations of Normal Operators .....	14
<i>Mingxue Liu</i>	
Research of Cooperative Geosteering Drilling Virtual System Based on Network .....	19
<i>Xiaorong Gao and Yingzhuo Xu</i>	
Optimization of Storage Location Assignment for Fixed Rack Systems .....	29
<i>Qinghong Wu, Ying Zhang, and Zongmin Ma</i>	
Evaluation Query Answer over Inconsistent Database with Annotations .....	36
<i>Aihua Wu</i>	
Research and Implementation of Index Weight Calculation Model for Power Grid Investment Returns .....	44
<i>Wei Li, Guofeng Chen, and Cheng Duan</i>	

## Applications of Web Mining

An Improved Algorithm for Session Identification on Web Log .....	53
<i>Yuankang Fang and Zhiqui Huang</i>	
A Chinese Web Page Automatic Classification System .....	61
<i>Rongyou Huang and Xinjian Zhao</i>	
Towards a Quality-Oriented Real-Time Web Crawler .....	67
<i>Jianling Sun, Hui Gao, and Xiao Yang</i>	
Research on the Value of Business Information Online Based on Fuzzy Comprehensive Evaluation .....	77
<i>Xiaohong Wang, Yilei Pei, and Liwei Li</i>	

A Clustering Algorithm Based on Matrix over High Dimensional Data Stream ..... 86  
*Guibin Hou, Ruizia Yao, Jiadong Ren, and Changzhen Hu*

**Distributed Systems**

A Dynamic Dispatcher-Based Scheduling Algorithm on Load Balancing for Web Server Cluster ..... 95  
*Liyong Bao, Dongfeng Zhao, and Yifan Zhao*

Nature of Chinese Thesaurus Automatic Construction and Its Study of Major Technologies in Digital Libraries ..... 103  
*Wen Zeng and Huilin Wang*

Research on the Resource Monitoring Model Under Cloud Computing Environment ..... 111  
*Junwei Ge, Bo Zhang, and Yiqiu Fang*

**E-Government and E-Commerce**

A New Photo-Based Approach for Fast Human Body Shape Modeling ..... 119  
*Xiao Hu Liu, Yu Wen Wu, and Yan Ting Huang*

A Multi-Criteria Analysis Approach for the Evaluation and Selection of Electronic Market in Electronic Business in Small and Medium Sized Enterprises ..... 128  
*Xiaoxia Duan, Hepu Deng, and Brian Corbitt*

**Geographic Information Systems**

A WebGIS and GRA Based Transportation Risk Management System for Oversea Oil Exploitation ..... 138  
*Tijun Fan and Youyi Jiang*

Prediction of Pine Wilt Disease in Jiangsu Province Based on Web Dataset and GIS ..... 146  
*Mingyang Li, Milan Liu, Min Liu, and Yunwei Ju*

An Approach for Integrating Geospatial Processing Services into Three-Dimensional GIS ..... 154  
*Yingjie Hu, Jianping Wu, Haidong Zhong, Zhenhua Lv, and Bailang Yu*

Parallel K-Means Clustering of Remote Sensing Images Based on MapReduce ..... 162  
*Zhenhua Lv, Yingjie Hu, Haidong Zhong, Jianping Wu, Bo Li, and Hui Zhao*

## Information Security

Enhancing Distributed Web Security Based on Kerberos Authentication Service .....	171
<i>Cao Lai-Cheng</i>	
A New Scheme for Protecting Master-Key of Data Centre Web Server in Online Banking .....	179
<i>Cao Lai-Cheng and Liang Lei</i>	
An Automated Worm Containment Scheme .....	187
<i>Lipeng Song and Zhen Jin</i>	
RBAC-Based Access Control Integration Framework for Legacy System .....	194
<i>He Guo, Guoji Lu, Yuxin Wang, Han Li, and Xin Chen</i>	
A Pseudo Random Numbers Generator Based on Chaotic Iterations: Application to Watermarking .....	202
<i>Christophe Guyeux, Qianxue Wang, and Jacques M. Bahi</i>	
A Secure Protocol for Point-Segment Position Problem .....	212
<i>Yi Sun, Hongxiang Sun, Hua Zhang, and Qiaoyan Wen</i>	
Learning Automata Representation of Network Protocol by Grammar Induction .....	220
<i>Ming-Ming Xiao and Shun-Zheng Yu</i>	
Gene-Certificate Based Model for User Authentication and Access Control .....	228
<i>Feixian Sun</i>	
A New Data Integrity Verification Mechanism for SaaS .....	236
<i>Yuliang Shi, Kun Zhang, and Qingzhong Li</i>	
An Exquisite Authentication Scheme with Key Agreement Preserving User Anonymity .....	244
<i>Mijin Kim, Seungjoo Kim, and Dongho Won</i>	
Towards A Dynamic Federation Framework Based on SAML and Automated Trust Negotiation .....	254
<i>Yicun Zuo, Xiling Luo, and Feng Zeng</i>	

## Intelligent Networked Systems

Research and Application of FlexRay High-Speed Bus on Transformer Substation Automation System .....	263
<i>Hui Li, Hao Zhang, and Daogang Peng</i>	

A Task Scheduling Algorithm Based on Load Balancing in Cloud Computing .....	271
<i>Yiqiu Fang, Fei Wang, and Junwei Ge</i>	
The Accuracy Enhancements of Virtual Antenna for Location Based Services .....	278
<i>Fu Tao, Huang Benxiong, and Mo Yijun</i>	

**Management Information Systems**

Research on the Production Scheduling Management System Based on SOA .....	286
<i>Baoan Li</i>	
A Requirement-Driven Approach to Enterprise Application Development .....	295
<i>Jinan Duan, Qunxiong Zhu, and Zhong Guan</i>	

**Mobile Computing**

ESA: An Efficient and Stable Approach to Querying Reverse $k$ -Nearest-Neighbor of Moving Objects .....	303
<i>Dunlu Peng, Wenming Long, Ting Huang, and Huan Huo</i>	
The Research of Efficient Dual-Port SRAM Data Exchange without Waiting with FIFO-Based Cache .....	312
<i>Alfred Ji Qianqian, Zhao Ping, Cheng Sen, Tan Jingjing, Wei Xu, and Wei Yong</i>	

**Web Content Mining**

Extracting Service Aspects from Web Reviews .....	320
<i>Jinmei Hao, Suke Li, and Zhong Chen</i>	
Clustering the Tagged Resources Using STAC .....	328
<i>Feihang Gao, Kening Gao, and Bin Zhang</i>	
Advertising Keywords Extraction from Web Pages .....	336
<i>Jianyi Liu, Cong Wang, Zhengyang Liu, and Wenbin Yao</i>	
Automatic Topic Detection with an Incremental Clustering Algorithm .....	344
<i>Xiaoming Zhang and Zhoujun Li</i>	

**Web Information Classification**

Three New Feature Weighting Methods for Text Categorization .....	352
<i>Wei Xue and Xinshun Xu</i>	

Algorithms of BBS Opinion Leader Mining Based on Sentiment Analysis .....	360
<i>Xiao Yu, Xu Wei, and Xia Lin</i>	
Entity Relationship Extraction Based on Potential Relationship Pattern .....	370
<i>Chen Chen, HuiLin Liu, GuoRen Wang, LinLin Ding, and LiLi Yu</i>	
<b>Web Information Retrieval</b>	
On Arnoldi Method Accelerating PageRank Computations .....	378
<i>Guo-Jian Yin and Jun-Feng Yin</i>	
A Framework for Automatic Query Expansion .....	386
<i>Hazra Imran and Aditi Sharan</i>	
<b>Web Services and E-Learning</b>	
WSCache: A Cache Based Content-Aware Approach of Web Service Discovery .....	394
<i>Dunlu Peng, Xinglong Jiang, Wenjie Xu, and Kai Duan</i>	
A Novel Local Optimization Method for QoS-Aware Web Service Composition .....	402
<i>Xiaojie Si, Xuyun Zhang, and Wanchun Dou</i>	
Preference-Aware QoS Evaluation for Cloud Web Service Composition Based on Artificial Neural Networks .....	410
<i>Xuyun Zhang and Wanchun Dou</i>	
Software Architecture Driven Configurability of Multi-tenant SaaS Application .....	418
<i>Hua Wang and Zhijun Zheng</i>	
<b>XML and Semi-structured Data</b>	
Parallel Accessing Massive NetCDF Data Based on MapReduce .....	425
<i>Hui Zhao, SiYun Ai, Zhenhua Lv, and Bo Li</i>	
On Well-Formedness Rules for UML Use Case Diagram .....	432
<i>Noraini Ibrahim, Rosziati Ibrahim, Mohd Zainuri Saringat, Dzahar Mansor, and Tutut Herawan</i>	
<b>Author Index</b> .....	441