

**2006 6th IEEE International
Conference on Data Mining
(ICDM Workshops 2006)**

**Hong Kong, China
18 December 2006**

Pages 1-418



**IEEE Catalog Number: CFP0656B-PRT
ISBN: 978-1-4244-3089-5**

TABLE OF CONTENTS

WORKSHOP ON ONTOLOGY MINING AND KNOWLEDGE DISCOVERY FROM SEMISTRUCTURED DOCUMENTS MSD 2006

Mining Frequent Induced Subtree Patterns with Subtree-Constraint	1
<i>Lei Zou, Yansheng Lu, Huaming Zhang, Rong Hu, Chong Zhou</i>	
Razor: Mining Distance-Constrained Embedded Subtrees	6
<i>Henry Tan, Tharam Dillon, Fedja Hadzic, Elizabeth Chang</i>	
Mining Closed and Maximal Frequent Induced Free Subtrees.....	12
<i>Hitohiro Shiozaki, Tomonobu Ozaki, Takenao Ohkawa</i>	
Automatic Keyword Extraction Using Linguistic Features	17
<i>Xinghua Hu, Bin Wu</i>	
A Semi-Structured Representation for Knowledge Discovering Using Remote Sensing Images	22
<i>Erick López-Ornelas, Florence Sèdes</i>	
NameIt: Extraction of Product Names.....	27
<i>Gerhard Friedrich, Kostyantyn Shehekotykhin</i>	
The Role of Domain Ontology in Text Mining Applications: The ADDMiner Project	32
<i>Ana Cristina B. Garcia, Inha^Âma Neves Ferraz, Fernando Pinto</i>	
Enhancing Text Retrieval Performance Using Conceptual Ontological Graph.....	37
<i>Shady Shehata, Fakhri Karray, Mohamed Kamel</i>	
Unsupervised Learning of Tree Alignment Models for Information Extraction	43
<i>Philip Zigoris, Damian Eads, Yi Zhang</i>	
Clustering Workflow Requirements Using Compression Dissimilarity Measure.....	48
<i>Li Wei, John Handley, Nathaniel Martin, Tong Sun, Eamonn Keogh</i>	
Reducing the Frequent Pattern Set	53
<i>Ronnie Bathoorn, Arne Koopman, Arno Siebes</i>	
Improving the Results and Performance of Clustering Bit-Encoded XML Documents.....	58
<i>Michal Kozielski</i>	
A New Algorithm for Mining Fuzzy Association Rules in the Large Databases Based on Ontology.....	63
<i>Z. Farzanyar, M. Kangavari, S. Hashemi</i>	
Extracting Variable Knowledge from Multiversioned XML Documents	68
<i>Laura Irina Rusu, Wenny Rahayu, David Taniar</i>	
Automatic Construction of N-ary Tree Based Taxonomies	73
<i>Kunal Punera, Suju Rajan, Joydeep Ghosh</i>	
Concept-Aware Ranking: Teaching an Old Graph New Moves.....	78
<i>Colin DeLong, Sandeep Mane, Jaideep Srivastava</i>	

INTERNATIONAL WORKSHOP ON DATA MINING IN BIOINFORMATICS

DMB

Hierarchical Density Shaving: A Clustering and Visualization Framework for Large Biological Datasets	84
<i>Gunjan Gupta, Alexander Liu, Joydeep Ghosh</i>	
Discovering Frequent Poly-Regions in DNA Sequences	89
<i>Panagiotis Papapetrou, Gary Benson, George Kollios</i>	
Sparse Logistic Classifiers for Interpretable Protein Homology Detection	94
<i>P. Huang, V. Pavlovic</i>	
Consensus Clustering for Detection of Overlapping Clusters in Microarray Data	99
<i>Meghana Deodhar, Joydeep Ghosh</i>	
Inference of Gene Regulatory Networks from Time Series Expression Data: A Data Mining Approach	104
<i>Patrick C. H. Ma, Keith C. C. Chan</i>	
Predictive Integration of Gene Ontology-Driven Similarity and Functional Interactions	109
<i>Francisco Azuaje, Haiying Wang, Huiru Zheng, Olivier Bodenreider, Alban Chesneau</i>	
Minimum Redundancy Gene Selection Based on Grey Relational Analysis	115
<i>Li-Juan Zhang, Zhou-Jun Li, Huo-Wang Chen, Jian Wen</i>	
Global Biclustering of Microarray Data	120
<i>Thomas Wolf, Benedikt Brors, Thomas Hofmann, Elisabeth Georgii</i>	
A Graph-Theoretic Method for Mining Functional Modules in Large Sparse Protein Interaction Networks	125
<i>Shihua Zhang, Hong-Wei Liu, Xue-Mei Ning, Xiang-Sun Zhang</i>	
Context-Aware Visual Exploration of Molecular Databases	131
<i>Giuseppe Di Fatta, Antonino Fiannaca, Riccardo Rizzo, Alfonso Urso, Michael R. Berthold, Salvatore Gaglio</i>	
Genome Data Type: A Vehicle to Deliver a Genome Comparison System on the Web	137
<i>Kwangmin Choi, Amit Saple, Sun Kim</i>	
Identification of Overlapping Functional Modules in Protein Interaction Networks: Information Flow-Based Approach	142
<i>Young-Rae Cho, Woochang Hwang, Aidong Zhang</i>	
Fuzzy-Granular Gene Selection from Microarray Expression Data	148
<i>Yuanchen He, Yuchun Tang, Yan-Qing Zhang, Rajshekhar Sunderraman</i>	
Clustering of SNP Data with Application to Genomics	153
<i>Michael K. Ng, Mark J. Li, Sio I. Ao, Pak C. Sham, Yiu-ming Cheung, Joshua Z. Huang</i>	
GCA: A Coclustering Algorithm for Thalamo-Cortico-Thalamic Connectivity Analysis	158
<i>Cui Lin, Shiyong Lu, Xuwei Liang, Jing Hua</i>	
Application of Graph-Based Data Mining to Metabolic Pathways	164
<i>Chang Hun You, Lawrence B. Holder, Diane J. Cook</i>	
Feature Selection on High Throughput SELDI-TOF Mass-Spectrometry Data for Identifying Biomarker Candidates in Ovarian and Prostate Cancer	169
<i>Claudia Plant, Melanie Osl, Bernhard Tilg, Christian Baumgartner</i>	
A Maximum Likelihood Approach to Noise Estimation for Intensity Measurements in Biology	175
<i>Frank Klawonn, Claudia Hundertmark, Lothar Jänsch</i>	

Using Image Classification for Biomedical Literature Retrieval	180
<i>Brigitte Mathiak, Andreas Kupfer, Tatjana Scope, Britta Störmann, Silke Eckstein</i>	
Modeling Multiple Time Units Delayed Gene Regulatory Network Using Dynamic Bayesian Network	185
<i>Zhengzheng Xing, Dan Wu</i>	
Significance Analysis and Improved Discovery of Differentially Co-expressed Gene Sets in Microarray Data	191
<i>Haixia Li, R. Krishna Murthy Karuturi</i>	
Robust Feature Extraction and Reduction of Mass Spectrometry Data for Cancer Classification	197
<i>Tuan D. Pham, Vikram Chandramohan, Xiaobo Zhou, Stephen T. C. Wong</i>	
Mining Information Extraction Models for HmtDB Annotation	202
<i>Margherita Berardi, Donato Malerba, Marcella Attimonelli</i>	
Mining Substructures in Protein Data	208
<i>Fedja Hadzic, Tharam S. Dillon, Amandeep S. Sidhu, Elizabeth Chang, Henry Tan</i>	
Uncovering Potential Attribute Relevance via MIA-Processing in Data Mining	213
<i>Sam Chao, Yiping Li</i>	
Head and Neck Cancer Detection in Histopathological Slides	218
<i>Mutlu Mete, Xiaowei Xu, Chun-Yang Fan, Gal Shafirstein</i>	

**THE SECOND INTERNATIONAL WORKSHOP ON MINING COMPLEX DATA
MCD'06**

Comparison of MACLAW with Several Attribute Selection Methods for Classification in Hyperspectral Images	223
<i>Alexandre Blansché, Annett Wania, Pierre Gançarski</i>	
Decision Tree Construction from Multidimensional Structured Data	229
<i>Tomoki Watanuma, Tomonobu Ozaki, Takenao Ohkawa</i>	
Discovering Manufacturing Process from Timed Data: The BJT4R Algorithm	234
<i>N. Benayadi, M. Le Goc, P. Bouche</i>	
A Probability Distribution of Functional Random Variable with a Functional Data Analysis Application	239
<i>E. Cuvelier, M. Noirhomme-Fraiture</i>	
Designing and Evaluating an Index for Graph Structured Data	245
<i>S. Barton, P. Zezula</i>	
Variant Bayesian Networks	250
<i>Qingsong Peng, Ming Zhang, Weimin Wu, Ronggui Wang</i>	
Full Perfect Extension Pruning for Frequent Graph Mining	255
<i>Christian Borgelt, Thorsten Meinl</i>	
Segmentation of Evolving Complex Data and Generation of Models	261
<i>Corrado Loglisci, Margherita Berardi</i>	
Efficient Clustering for Orders	266
<i>Toshihiro Kamishima, Shotaro Akaho</i>	
Efficient Mining of Closed Induced Ordered Subtrees in Tree-Structured Databases	271
<i>Tomonobu Ozaki, Takenao Ohkawa</i>	

Mining System for Community Finding and Centrality of Virtual User Network on the Internet	N/A
<i>Sen Qin, Guan-zhong Dai, Yan-ling Li</i>	
A Comparison of Personal Name Matching: Techniques and Practical Issues	276
<i>Peter Christen</i>	
Kernel-Based Algorithms and Visualization for Interval Data Mining	281
<i>Thanh-Nghi Do, François Poulet</i>	
Extracting Communities from Complex Networks by the k-dense Method	286
<i>Kazumi Saito, Takeshi Yamada, Kazuhiro Kazama</i>	
Evaluating Learning Algorithms Composed by a Constructive Meta-Learning Scheme for a Rule Evaluation Support Method	291
<i>Hidenao Abe, Shusaku Tsumoto, Miho Ohsaki, Takahira Yamaguchi</i>	
Development of a New Method for Data Mining Based Rough Set Theory	297
<i>Jianjun Hao, Huiping Li, Jihua Huang, Jiangang Zhang</i>	
Fast Frequent Free Tree Mining in Graph Databases	301
<i>Peixiang Zhao, Jeffrey Xu Yu</i>	
A Parallel Algorithm for Enumerating All Maximal Cliques in Complex Network	306
<i>Nan Du, Bin Wu, Liutong Xu, Bai Wang, Xin Pei</i>	
Dealing with Missing Values in a Probabilistic Decision Tree during Classification	311
<i>Lamis Hawarah, Ana Simonet, Michel Simonet</i>	
Imbalanced Datasets Classification by Fuzzy Rule Extraction and Genetic Algorithms	316
<i>Vicenç Soler, Jesus Cerquides, Josep Sabria, Jordi Roig, Marta Prim</i>	

FIRST INTERNATIONAL WORKSHOP ON SPATIAL AND SPATIO-TEMPORAL DATA MINING
SSTDM

Feature Subset Selection on Multivariate Time Series with Extremely Large Spatial Features	321
<i>Hyunjin Yoon, Cyrus Shahabi</i>	
Spatial Multidimensional Sequence Clustering	327
<i>Ira Assent, Ralph Krieger, Boris Glavic, Thomas Seidl</i>	
Discovering Association Patterns in Large Spatio-temporal Databases	333
<i>Eric M.H. Lee, Keith C.C. Chan</i>	
A Multi-resolution Compression Scheme for Efficient Window Queries over Road Network Databases	339
<i>Ali Khoshgozaran, Ali Khodaei, Mehdi Sharifzadeh, Cyrus Shahabi</i>	
Discovering and Summarising Regions of Correlated Spatio-temporal Change in Evolving Graphs	345
<i>Jeffrey Chan, James Bailey, Christopher Leckie</i>	
Similarity of Temporal Query Logs Based on ARIMA Models	350
<i>Ning Liu, Shuzhen Nong, Jun Yan, Benyu Zhang, Zheng Chen, Ying Li</i>	
Context-Inclusive Approach to Speed-up Function Evaluation for Statistical Queries: An Extended Abstract	355
<i>Vijay Gandhi, James M. Kang, Shashi Shekhar, Junchang Ju, Eric D. Kolaczyk, Sucharita Gopal</i>	

Trajectory Analysis for Soccer Players	361
<i>Chan-Hyun Kang, Jung-Rae Hwang, Ki-Joune Li</i>	
k-STARS: Sequences of Spatio-Temporal Association Rules	366
<i>F. Verhein</i>	

FOUNDATION OF DATA MINING AND NOVEL TECHNIQUES IN HIGH DIMENSIONAL STRUCTURAL AND UNSTRUCTURED DATA

A Systemic Framework for the Field of Data Mining and Knowledge Discovery	371
<i>Yi Peng, Gang Kou, Yong Shi, Zhengxin Chen</i>	
An Improved Feature Representation Method for Maximum Entropy Model	376
<i>Guan Yi, Zhao Jian</i>	
Properties of the First Type of Covering-Based Rough Sets	383
<i>William Zhu, Fei-Yue Wang</i>	
Concept Analysis and Web Clustering Using Combinatorial Topology	388
<i>Tsau Young Lin, Albert Sutojo, Jean-David Hsu</i>	
Many Sorted Observational Calculi for Multi-relational Data Mining	393
<i>Jan Rauch</i>	
Efficiently Mining Maximal 1-Complete Regions from Dense Datasets	399
<i>Haiyun Bian, Raj Bhatnagar</i>	
Algorithms on Discretizing Continuous Attributes Values and Its Application to Synthetical Test and Evaluation of Patent Strength	404
<i>Minghua Zeng, Xiongfeng Pan, Qing Liu</i>	
Residual Matrix and Statistical Independence in a Contingency Table	409
<i>Shusaku Tsumoto, Shoji Hirano</i>	
Understanding the Web Page Layout	414
<i>Minghong Zhou, Rubao Li, Wei Li</i>	
Segmentation of Time Series by the Clustering and Genetic Algorithms	419
<i>Vincent S. Tseng, Chun-Hao Chen, Chien-Hsiang Chen, Tzung-Pei Hong</i>	
Knowledge Discovery across Documents through Concept Chain Queries	424
<i>Wei Jin, Rohini K. Srihari</i>	
Extracting Informative Rules from High Dimensional Data Using a Numerical Approach	429
<i>Nicolas Carrez, Jean-Charles Lamirel, Shadi Al Shehabi</i>	
Cascaded Data Mining Methods for Text Understanding, with Medical Case Study	434
<i>Roni Romano, Lior Rokach, Oded Maimon</i>	
A Simple Genetic Algorithm for Tracing the Deformed Midline on a Single Slice of Brain CT Using Quadratic Bézier Curves	439
<i>Chun-Chih Liao, Furen Xiao, Jau-Min Wong, I-Jen Chiang</i>	
Towards Enterprise Archeology: Extracting Business Processes from Runtime Event Data	444
<i>Asuman Suenbuel, Ming-Shien Shan</i>	
Mining the Future: Predicting Itemsets' Support of Association Rules Mining	450
<i>Shenoda Guirguis, Khalil M. Ahmed, Nagwa M. El Makkay, Alaaeldin M Hafez</i>	
Input Validation for Semi-supervised Clustering	455
<i>Kevin Y. Yip, Michael K. Ng, David W. Cheung</i>	

Modeling Dynamic Substate Chains among Massive States for Prediction	460
<i>Nguyen Viet Phuong, Takashi Washio</i>	
Keyword Generation for Search Engine Advertising	466
<i>Amruta Joshi, Rajeev Motwani</i>	

**INTERNATIONAL WORKSHOP ON PRIVACY ASPECTS OF DATA MINING
PADM 2006**

Privacy-Preserving Data Linkage and Geocoding: Current Approaches and Research Directions	471
<i>Peter Christen</i>	
A Max-Min Approach for Hiding Frequent Itemsets	476
<i>George V. Moustakides, Vassilios S. Verykios</i>	
The Applicability of the Perturbation Model-Based Privacy Preserving Data Mining for Real-World Data	481
<i>Li Liu, Murat Kantarcioglu, Bhavani Thuraisingham</i>	
NNMF-Based Factorization Techniques for High-Accuracy Privacy Protection on Non-negative-valued Datasets	487
<i>Jie Wang, Weijun Zhong, Jun Zhang</i>	
Optimal k-Anonymity with Flexible Generalization Schemes through Bottom-Up Searching	492
<i>Tiancheng Li, Ninghui Li</i>	
Transforming Semi-honest Protocols to Ensure Accountability	498
<i>Wei Jiang, Chris Clifton</i>	
Preserving Private Knowledge in Frequent Pattern Mining	504
<i>Zhihui Wang, Wei Wang, Baile Shi, S. H. Boey</i>	
Privacy-Preserving Data Imputation	509
<i>Geetha Jagannathan, Rebecca N. Wright</i>	
Privacy Preserving Nearest Neighbor Search	515
<i>Mark Shaneck, Yongdae Kim, Vipin Kumar</i>	
A Crypto-based Approach to Privacy-Preserving Collaborative Data Mining	520
<i>Justin Zhan, Stan Matwin</i>	
An Approach to Outsourcing Data Mining Tasks While Protecting Business Intelligence and Customer Privacy	525
<i>Ling Qiu, Yingjiu Li, Xintao Wu</i>	

**INTERNATIONAL WORKSHOP ON DATA MINING FOR DESIGN AND
MARKETING 2006
DMDM 2006**

Designing New Product Scenarios for Patent by Human-Interactive Annealing with Pictogram	530
<i>Kenichi Horie, Yoshiharu Maeno, Yukio Ohsawa</i>	
Estimation System of People's Freindship and Hierarchical Relationship from Sentence Types	536
<i>Yoko Nishihara, Wataru Sunayama, Masahiko Yachida</i>	

Pattern Mining in POS Data Using a Historical Tree	541
<i>Takanobu Nakahara, Hiroyuki Morita</i>	
The River-Rafting System for Knowledge Discovery Related to Persuasion Process Conversation Logs	546
<i>Wataru Sunayama, Katsutoshi Yada</i>	
Exploring Business Opportunities from Mobile Service Data of Customers Using Inter- cluster Analysis	551
<i>Indranil Bose, Chen Xi</i>	
Mining Chinese Reviews	556
<i>Bin Shi, Kuiyu Chang</i>	
A Method to Search ARX Model Orders and Its Application to Sales Dynamics Analysis	561
<i>Kenta Fukata, Takashi Washio, Hiroshi Motoda</i>	
Market Research Design on Modeling Propensity to Purchase and Market Potential: Using GIS and Data Mining as the Tools	567
<i>Lihua Zhao, Jennifer Harris</i>	
Association Bundle - A New Pattern for Association Analysis	572
<i>Wenxue Huang, Milorad Krneta, Limin Lin, Jianhong Wu</i>	
Cluster Evolution and Interpretation via Penalties	577
<i>Daniel Fleder, Balaji Padmanabhan</i>	

IEEE INTERNATIONAL WORKSHOP ON MINING EVOLVING AND STREAMING DATA

Fuzzy Related Classification Approach Based on Semantic Measurement for Web Document	583
<i>Hui Zhang, Han-Tao Song</i>	
Communal Detection of Implicit Personal Identity Streams	588
<i>Clifton Phua, Ross Gayler, Kate Smith-Miles, Vincent Lee</i>	
Online Change Detection: Monitoring Land Cover from Remotely Sensed Data	594
<i>Yi Fang, Auroop R. Ganguly, Nagendra Singh, Veeraraghavan Vijayaraj, Neal Feierabend, David T. Potere</i>	
Modeling Evaluation of Continuous Queries on Sliding Windows	600
<i>Anita Dani, Janusz Getta</i>	
Unsupervised Clustering in Streaming Data	606
<i>Dimitris K. Tasoulis, Niall M. Adams, David J. Hand</i>	
Evolving Extended Naïve Bayes Classifiers	611
<i>Frank Klawonn, Plamen Angelov</i>	
Mining and Predicting Duplication over Peer-to-Peer Query Streams	616
<i>Shicong Meng, Yifeng Shao, Cong Shi, Dingyi Han, Yong Yu</i>	
Clustering-Training for Data Stream Mining	621
<i>Shuang Wu, Chunyu Yang, Jie Zhou</i>	
An Evaluation of Progressive Sampling for Imbalanced Data Sets	625
<i>Willie Ng, Manoranjan Dash</i>	
Efficient Reservoir Sampling for Transactional Data Streams	630
<i>Manoranjan Dash, Willie Ng</i>	

Dynamic Algorithm for Graph Clustering Using Minimum Cut Tree	635
<i>Barna Saha, Pabitra Mitra</i>	
A New Algorithm for Maintaining Closed Frequent Itemsets in Data Streams by Incremental Updates.....	640
<i>Hua-Fu Li, Chin-Chuan Ho, Fang-Fei Kuo, Suh-Yin Lee</i>	
Incremental Mining of Sequential Patterns over a Stream Sliding Window.....	645
<i>Chin-Chuan Ho, Hua-Fu Li, Fang-Fei Kuo, Suh-Yin Lee</i>	
HClustream: A Novel Approach for Clustering Evolving Heterogeneous Data Stream	650
<i>Chunyu Yang, Jie Zhou</i>	

WORKSHOP ON RISK MINING 2006

RM 2006

Chance Discovery in Credit Risk Management -Estimation of Chain Reaction Bankruptcy Structure by Chance Discovery Method	654
<i>Shinichi Goda, Yukio Ohsawa</i>	
Unusual Condition Mining for Risk Management of Hydroelectric Power Plants.....	659
<i>Takashi Onoda, Norihiko Ito, Hironobu Yamasaki</i>	
Risk Mining in Hospital Information Systems	664
<i>Shusaku Tsumoto, Kimiko Matsuoka, Shigeki Yokoyama</i>	
Cooperation Between Abductive and Inductive Nursing Risk Management	670
<i>A. Abe, H. Itoh Ozaku, N. Kuwahara, K. Kogure</i>	
A Mining Method of Communities Keeping Tacit Knowledge	674
<i>Ryutaro Ichise, Hideaki Takeda, Satoshi Kouno, Taichi Muraki</i>	
Human-Interactive Annealing for Turning Threat to Opportunity in Technology Development.....	679
<i>Yoshiharu Maeno, Kiiichi Ito, Kenichi Horie, Yukio Ohsawa</i>	
Asset Valuation Technique for Network Management and Security	683
<i>Luc Beaudoin, P. Eng</i>	
A Neural Networks Approach for Software Risk Analysis	687
<i>Yong Hu, Juhua Chen, Zhenbang Rong, Mei Liu, Kang Xie</i>	
Classification and Clustering: A Perspective toward Risk Mining	691
<i>Sadaaki Miyamoto</i>	
Hierarchical Agglomerative Clustering Based T-outlier Detection.....	696
<i>Dajun Wang, Paul J. Fortier, Howard E. Michel, Theophano Mitsa</i>	

IEEE INTERNATIONAL WORKSHOP ON RELIABILITY ISSUES OF KNOWLEDGE DISCOVERY

RIKD 2006

Theoretical and Experimental Study of a Meta-typicalness Approach for Reliable Classification	701
<i>E.N. Smirnov, A. Kaptein</i>	
Generalizing Version Space Support Vector Machines for Non-separable Data.....	706
<i>E.N. Smirnov, I.G. Sprinkhuizen-Kuyper, N.I. Nikolaev</i>	

Mining the Most Reliable Association Rules with Composite Items	711
<i>Ke Wang, James N. K. Liu, Wei-min Ma</i>	
Enhancing Reliability throughout Knowledge Discovery Process.....	716
<i>Yi Feng, Zhaohui Wu, Zhongmei Zhou</i>	
Proposal of Medical KDD Support User Interface Utilizing Rule Interestingness Measures.....	721
<i>Miho Ohsaki, Hidenao Abe, Shusaku Tsumoto, Hideto Yokoi, Takahira Yamaguchi</i>	
Ontology-Based Association Rules Retrieval using Protégé Tools	727
<i>Bin Shen, Min Yao, Zhaohui Wu, Yangu Zhang, Wensheng Yi</i>	
Reducing Performance Bias for Unbalanced Text Mining	732
<i>L. Zhuang, H. Dai</i>	
A Study on Reliability in Graph Discovery	737
<i>Honghua Dai</i>	
On Statistical Measures for Selecting Pertinent Formal Concepts to Discover Production Rules from Data	742
<i>Mondher Maddouri, Fatma Kaabi</i>	
Challenges and Interesting Research Directions in Associative Classification.....	747
<i>Fadi Thabtah</i>	
<u>WORKSHOP ON OPTIMIZATION-BASED DATA MINING TECHNIQUES WITH APPLICATIONS</u>	
An Improved Genetic k-means Algorithm for Optimal Clustering	752
<i>Hai-xiang Guo, Ke-jun Zhu, Si-wei Gao, Ting Liu</i>	
A Mixed Process Neural Network and Its Application to Churn Prediction in Mobile Communications	757
<i>Guojie Song, Dongqing Yang, Ling Wu, Tengjiao Wang, Shiwei Tang</i>	
Network Intrusion Detection by Multi-group Mathematical Programming Based Classifier.....	762
<i>Gang Kou, Yi Peng, Yong Shi, Zhengxin Chen</i>	
Data Envelopment Analysis Assessment Machine	767
<i>Q. Wei, H. Yan</i>	
Unsupervised and Semi-supervised Two-Class Support Vector Machines	772
<i>Zhao Kun, Tian Ying-jie, Deng Nai-yang</i>	
Credit Assessment: A Least Squares Support Feature Machine Approach.....	777
<i>Jianping Li, Zhenyu Chen, Weixuan Xu</i>	
Credit Risk Assessment with Least Squares Fuzzy Support Vector Machines.....	782
<i>Lean Yu, Kin Keung Lai, Shouyang Wang</i>	
A Data Mining Approach to Classify Credit Cardholders™ Behavior	787
<i>Aihua Li, Yong Shi, Meihong Zhu, Jingran Dai</i>	
A Knowledge Management Platform for Optimization-Based Data Mining	792
<i>Xingsen Li, Yong Shi, Ying Liu, Jun Li, Aihua Li</i>	
A Hybrid Strategy for Clustering Data Mining Documents	797
<i>Yi Peng, Gang Kou, Yong Shi, Zhengxin Chen</i>	
The Analysis on the Customers Churn of Charge Email Based on Data Mining -- Take One Internet Company for Example.....	802
<i>Guangli Nie, Lingling Zhang, Xingsen Li, Yong Shi</i>	

An Effective Hypergraph Clustering in Multi-stage Data Mining of Traditional Chinese Medicine Syndrome Differentiation	807
<i>Bo Wang, Ming-Wei Zhang, Bin Zhang, Wei-Jie Wei</i>	
A Better Classifier Based on Rough Set and Neural Network for Medical Images	812
<i>Jiang Yun, Li Zhanhuai, Wang Yong, Zhang Longbo</i>	
Influencing Factors in Achieving Active Ageing Concepts	817
<i>Richi Nayak, Laurie Buys, Jan Lovie-Kitchin</i>	
Optimization Approaches for Semi-supervised Multiclass Classification	822
<i>Yasutoshi Yajima, Tien-Fang Kuo</i>	
A RBF Classifier with Supervised Center Selection and Weighted Norm	827
<i>Rong Liu, Yong Shi</i>	
Improved Logistic Regression Approach to Predict the Potential Distribution of Invasive Species Using Information Theory and Frequency Statistics	832
<i>Hao Chen, Lijun Chen, Thomas P. Albright, Qinfeng Guo</i>	
A Probabilistic Ensemble Pruning Algorithm	837
<i>Huanhuan Chen, Peter Tino, Xin Yao</i>	
Author Index	