

Table of Contents

Theoretical Aspects of Data Mining

Improvements over Adaptive Local Hyperplane to Achieve Better Classification	1
<i>Hongmin Cai</i>	
Prognostic Models Based on Linear Separability	11
<i>Leon Bobrowski</i>	
One Class Classification for Anomaly Detection: Support Vector Data Description Revisited	25
<i>Eric J. Pauwels and Onkar Ambekar</i>	
How to Interpret Decision Trees?	40
<i>Petra Perner</i>	
Comparing Classifiers and Metaclassifiers	56
<i>Elio Lozano and Edgar Acuña</i>	
Fast Data Acquisition in Cost-Sensitive Learning	66
<i>Victor S. Sheng</i>	

Data Mining in Medicine

Application of a Unified Medical Data Miner (UMDM) for Prediction, Classification, Interpretation and Visualization on Medical Datasets: The Diabetes Dataset Case	78
<i>Nawaz Mohamudally and Dost Muhammad Khan</i>	
Melanoma Diagnosis and Classification Web Center System: The Non-invasive Diagnosis Support Subsystem	96
<i>Wiesław Paja and Mariusz Wrzesień</i>	
Characterizing Cell Types through Differentially Expressed Gene Clusters Using a Model-Based Approach	106
<i>Juliane Perner and Elena Zotenko</i>	
Experiments with Hybridization and Optimization of the Rules Knowledge Base for Classification of MMPI Profiles	121
<i>Jerzy Gomuła, Wiesław Paja, Krzysztof Pancierz, Teresa Mroczek, and Mariusz Wrzesień</i>	

Multimedia Data Mining

Unsupervised Classification of Hyperspectral Images on Spherical Manifolds	134
<i>Dalton Lunga and Okan Ersoy</i>	
Recognition of Porosity in Wood Microscopic Anatomical Images.....	147
<i>Shen Pan and Mineichi Kudo</i>	

Data Mining in Agriculture

Exploratory Hierarchical Clustering for Management Zone Delineation in Precision Agriculture.....	161
<i>Georg Ruß and Rudolf Kruse</i>	
High Classification Rates for Continuous Cow Activity Recognition Using Low-Cost GPS Positioning Sensors and Standard Machine Learning Techniques.....	174
<i>Torben Godsk and Mikkel Baun Kjærgaard</i>	
Mining Pixel Evolutions in Satellite Image Time Series for Agricultural Monitoring	189
<i>Andreea Julea, Nicolas Méger, Christophe Rigotti, Emmanuel Trouvé, Philippe Bolon, and Vasile Lăzărescu</i>	

Data Mining for Industrial Processes

Robust, Non-Redundant Feature Selection for Yield Analysis in Semiconductor Manufacturing	204
<i>Eric St. Pierre and Eugene Tuv</i>	
Integrated Use of ICA and ANN to Recognize the Mixture Control Chart Patterns in a Process	218
<i>Yuehjen E. Shao, Yini Lin, and Ya-Chi Chan</i>	
Optimized Fuzzy Decision Tree Data Mining for Engineering Applications.....	228
<i>Liam Evans and Niels Lohse</i>	

Data Warehousing

Graph-Based Data Warehousing Using the Core-Facets Model	240
<i>Dung N. Lam, Alexander Y. Liu, and Cheryl E. Martin</i>	

Data Mining in Marketing

General Sales Forecast Models for Automobile Markets Based on Time Series Analysis and Data Mining Techniques.....	255
<i>Marco Hülsmann, Detlef Borscheid, Christoph M. Friedrich, and Dirk Reith</i>	

WebMining/Information Mining

Towards a Spatial Instance Learning Method for Deep Web Pages.....	270
<i>Ermelinda Oro and Massimo Ruffolo</i>	

Data Mining in Telecommunications

Applying User Signatures on Fraud Detection in Telecommunications Networks	286
<i>João Lopes, Orlando Belo, and Carlos Vieira</i>	

Aspects of Data Mining

Methods in Case-Based Classification in Bioinformatics: Lessons Learned	300
<i>Isabelle Bichindaritz</i>	
Prediction of Batch-End Quality for an Industrial Polymerization Process	314
<i>Geert Gins, Bert Pluymers, Ilse Y. Smets, Jairo Espinosa, and Jan F.M. Van Impe</i>	

Author Index	329
---------------------------	-----