

Contents

Introduction	1
Mahmoud Abou-Nasr, Stefan Lessmann, Robert Stahlbock and Gary M. Weiss	
Part I Established Data Mining Tasks	
What Data Scientists Can Learn from History	15
Aaron Lai	
On Line Mining of Cyclic Association Rules From Parallel Dimension Hierarchies	31
Eya Ben Ahmed, Ahlem Nabli and Faïez Gargouri	
PROFIT: A Projected Clustering Technique	51
Dharmveer Singh Rajput, Pramod Kumar Singh and Mahua Bhattacharya	
Multi-label Classification with a Constrained Minimum Cut Model	71
Guangzhi Qu, Ishwar Sethi, Craig Hartrick and Hui Zhang	
On the Selection of Dimension Reduction Techniques for Scientific Applications	91
Ya Ju Fan and Chandrika Kamath	
Relearning Process for SPRT in Structural Change Detection of Time-Series Data	123
Ryosuke Saga, Naoki Kaisaku and Hiroshi Tsuji	
Part II Business and Management Tasks	
K-means Clustering on a Classifier-Induced Representation Space: Application to Customer Contact Personalization	139
Vincent Lemaire, Fabrice Clérot and Nicolas Creff	

Dimensionality Reduction Using Graph Weighted Subspace Learning for Bankruptcy Prediction 155
 Bernardete Ribeiro and Ning Chen

Part III Fraud Detection

Click Fraud Detection: Adversarial Pattern Recognition over 5 Years at Microsoft 181
 Brendan Kitts, Jing Ying Zhang, Gang Wu, Wesley Brandi, Julien Beasley, Kieran Morrill, John Ettetdgui, Sid Siddhartha, Hong Yuan, Feng Gao, Peter Azo and Raj Mahato

A Novel Approach for Analysis of ‘RealWorld’ Data: A Data Mining Engine for Identification of Multi-author Student Document Submission 203
 Kathryn Burn-Thornton and Tim Burman

Data Mining Based Tax Audit Selection: A Case Study of a Pilot Project at the Minnesota Department of Revenue 221
 Kuo-Wei Hsu, Nishith Pathak, Jaideep Srivastava, Greg Tschida and Eric Bjorklund

Part IV Medical Applications

A Nearest Neighbor Approach to Build a Readable Risk Score for Breast Cancer 249
 Émilien Gauthier, Laurent Brisson, Philippe Lenca and Stéphane Ragusa

Machine Learning for Medical Examination Report Processing 271
 Yinghao Huang, Yi Lu Murphey, Naeem Seliya and Roy B. Friedenthal

Part V Engineering Tasks

Data Mining Vortex Cores Concurrent with Computational Fluid Dynamics Simulations 299
 Clifton Mortensen, Steve Gorrell, RobertWoodley and Michael Gosnell

A Data Mining Based Method for Discovery of Web Services and their Compositions 325
 Richi Nayak and Aishwarya Bose

Exploiting Terrain Information for Enhancing Fuel Economy of Cruising Vehicles by Supervised Training of Recurrent Neural Optimizers 343
 Mahmoud Abou-Nasr, John Michelini and Dimitar Filev

Exploration of Flight State and Control System Parameters for Prediction of Helicopter Loads via Gamma Test and Machine Learning Techniques 359
Catherine Cheung, Julio J. Valdés and Matthew Li

Multilayer Semantic Analysis in Image Databases 387
Ismail El Sayad, Jean Martinet, Zhongfei (Mark) Zhang and Peter Eisert

Index 415



<http://www.springer.com/978-3-319-07811-3>

Real World Data Mining Applications

Abou-Nasr, M.; Lessmann, S.; Stahlbock, R.; Weiss, G.M.
(Eds.)

2015, XVI, 418 p. 144 illus., 96 illus. in color., Softcover

ISBN: 978-3-319-07811-3