## Contents

### Data Mining and Machine Learning

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Generalized Bellman Equations and Temporal-Difference Learning</td>
<td>3</td>
</tr>
<tr>
<td>Huizhen Yu, Ashique Rupam Mahmood, and Richard S. Sutton</td>
<td></td>
</tr>
<tr>
<td>Person Identification Using Discriminative Visual Aesthetic</td>
<td>15</td>
</tr>
<tr>
<td>Samiul Azam and Marina Gavrilova</td>
<td></td>
</tr>
<tr>
<td>A Global Search Approach for Inducing Oblique Decision Trees</td>
<td>27</td>
</tr>
<tr>
<td>Using Differential Evolution</td>
<td></td>
</tr>
<tr>
<td>Rafael Rivera-Lopez and Juana Canul-Reich</td>
<td></td>
</tr>
<tr>
<td>Improving Active Learning for One-Class Classification</td>
<td>39</td>
</tr>
<tr>
<td>Using Dimensionality Reduction</td>
<td></td>
</tr>
<tr>
<td>Mohsen Ghazel and Nathalie Japkowicz</td>
<td></td>
</tr>
<tr>
<td>Local and Global Influence on Twitter</td>
<td>45</td>
</tr>
<tr>
<td>Shan Zong, Richard Khoury, and Rachid Benlamri</td>
<td></td>
</tr>
<tr>
<td>The Impact of Toxic Language on the Health of Reddit Communities</td>
<td>51</td>
</tr>
<tr>
<td>Shruthi Mohan, Apala Guha, Michael Harris, Fred Popowich, Ashley Schuster, and Chris Priebe</td>
<td></td>
</tr>
<tr>
<td>Somatic Copy Number Alteration-Based Prediction of Molecular Subtypes of Breast Cancer Using Deep Learning Model</td>
<td>57</td>
</tr>
<tr>
<td>Md. Mohaiminul Islam, Rasif Ajwad, Chen Chi, Michael Domaratzki, Yang Wang, and Pingzhao Hu</td>
<td></td>
</tr>
<tr>
<td>An Improved Data Sanitization Algorithm for Privacy Preserving</td>
<td>64</td>
</tr>
<tr>
<td>Medical Data Publishing</td>
<td></td>
</tr>
<tr>
<td>A.N.K. Zaman, Charlie Obimbo, and Rozita A. Dara</td>
<td></td>
</tr>
<tr>
<td>Reflexive Regular Equivalence for Bipartite Data</td>
<td>71</td>
</tr>
<tr>
<td>Aaron Gerow, Mingyang Zhou, Stan Matwin, and Feng Shi</td>
<td></td>
</tr>
<tr>
<td>Investigating Citation Linkage with Machine Learning</td>
<td>78</td>
</tr>
<tr>
<td>Hospice Houngbo and Robert E. Mercer</td>
<td></td>
</tr>
<tr>
<td>Classification of Imbalanced Auction Fraud Data</td>
<td>84</td>
</tr>
<tr>
<td>Swati Ganguly and Samira Sadaoui</td>
<td></td>
</tr>
</tbody>
</table>
Multi-label Learning Through Minimum Spanning Tree-Based Subset Selection and Feature Extraction ................................. 90
Payel Sadhukhan and C.A. Murthy

Comparative Study of Dimensionality Reduction Methods Using Reliable Features for Multiple Datasets Obtained by rs-fMRI in ADHD Prediction . . . 97
Rodolfo Garcia, Emerson Cabrera Paraiso, and Julio Cesar Nievola

Time-Dependent Smart Data Pricing Based on Machine Learning . . . . . . . . . . . 103
Yi-Chia Tsai, Yu-Da Cheng, Cheng-Wei Wu, Yueh-Ting Lai, Wan-Hsun Hu, Jeu-Yih Jeng, and Yu-Chee Tseng

Time Prediction of the Next Refueling Event: A Case Study . . . . . . . . . . . . 109
S. Mohammad Mirbagheri and Howard J. Hamilton

Planning and Combinatorial Optimization

A Worst-Case Analysis of Constraint-Based Algorithms for Exact Multi-objective Combinatorial Optimization ................................. 117
Jianmei Guo, Eric Blais, Krzysztof Czarnecki, and Peter van Beek

Metaheuristics for Score-and-Search Bayesian Network Structure Learning ................................. 129
Colin Lee and Peter van Beek

SmartHome Energy Saving Using a Multi-objective Approach Based on Appliances Usage Profiles ................................. 142
Henrique F. Lacerda, Allan R.S. Feitosa, Abel G. Silva-Filho, Wellington P. Santos, and Filipe R. Cordeiro

Sequence-Based Bidirectional Merge Map-Matching Algorithm for Simplified Road Network ................................. 148
Ge Cui, Chunlin Ma, and Xin Wang

On the Role of Possibility in Action Execution and Knowledge in the Situation Calculus ................................. 155
Vahid Vaezian and James P. Delgrande

Combinatorial Reverse Electricity Auctions ................................. 162
Shubhashis Kumar Shil and Samira Sadaoui

Policy Conflict Resolution in IoT via Planning ................................. 169
Emre Göynügiür, Sara Bernardini, Geeth de Mel, Kartik Talamadupula, and Murat Şensoy
AI Applications

Learning Physical Properties of Objects Using Gaussian Mixture Models
Kaveh Hassani and Won-Sook Lee

Design and Implementation of a Smart Quotation System
Akash Patel and Brigitte Jaumard

Knowledge Discovery in Graphs Through Vertex Separation
Marc Sarfati, Marc Queudot, Catherine Mancel, and Marie-Jean Meurs

A Knowledge Acquisition System for Price Change Rules
Moslema Jahan and Howard J. Hamilton

Automatic Household Identification for Historical Census Data
Luiza Antonie, Gary Grewal, Kris Inwood, and Shada Zarti

Natural Language Processing

Matrix Models with Feature Enrichment for Relation Extraction
Duc-Thuan Vo and Ebrahim Bagheri

Domain Adaptation for Detecting Mild Cognitive Impairment
Vaden Masrani, Gabriel Murray, Thalia Shoshana Field, and Giuseppe Carenini

Speech Intention Classification with Multimodal Deep Learning
Yue Gu, Xinyu Li, Shuhong Chen, Jianyu Zhang, and Ivan Marsic

Layerwise Interweaving Convolutional LSTM
Tiehang Duan and Sargur N. Srihari

Using Cognitive Computing to Get Insights on Personality Traits from Twitter Messages
Romualdo Alves Pereira Junior and Diana Inkpen

Confused and Thankful: Multi-label Sentiment Classification of Health Forums
Victoria Bobicev and Marina Sokolova

Uncertainty and Preference Reasoning

Probabilistic TCP-net
Sultan Ahmed and Malek Mouhoub

Resolving Inconsistencies of Scope Interpretations in Sum-Product Networks
Jhonatan S. Oliveira, Cory J. Butz, and André E. dos Santos
A Sparse Probabilistic Model of User Preference Data.

Matthew Smith, Laurent Charlin, and Joelle Pineau

On Converting Sum-Product Networks into Bayesian Networks

André E. dos Santos, Cory J. Butz, and Jhonatan S. Oliveira

Fuzzy Rough Set-Based Unstructured Text Categorization

Aditya Bharadwaj and Sheela Ramanna

Bayesian Networks to Model *Pseudomonas aeruginosa* Survival

Bertrand Sodjahin, Vivekanandan Suresh Kumar, Shawn Lewenza, and Shauna Reckseidler-Zenteno

Agent Systems

Quantified Coalition Logic of Knowledge, Belief and Certainty

Qingliang Chen, Xiaowei Huang, Kaile Su, and Abdul Sattar

Modelling Personality-Based Individual Differences in the Use of Emotion Regulation Strategies

Juan Martínez-Miranda and Matías Alvarado

Stoic Ethics for Artificial Agents.

Gabriel Murray

Active Team Management Strategies for Multi-robot Teams in Dangerous Environments

Geoff Nagy and John Anderson

Graduate Student Symposium

Diverse Action Costs in Heuristic Search and Planning

Gaojian Fan

Collaborative Filtering with Users’ Qualitative and Conditional Preferences

Sultan Ahmed

Deep Multi-cultural Graph Representation Learning.

Sima Sharifirad and Stan Matwin

Who Is the Artificial Author?

Tom Lebrun

Machine Learning Techniques to Unveil and Understand *Pseudomonas aeruginosa* Survival Mechanism in Nutrient Depleted Water

Bertrand Sodjahin
Advances in Artificial Intelligence
30th Canadian Conference on Artificial Intelligence,
Canadian AI 2017, Edmonton, AB, Canada, May 16-19, 2017, Proceedings
Mouhoub, M.; LANGLAIS, P. (Eds.)
2017, XV, 428 p. 115 illus., Softcover
ISBN: 978-3-319-57350-2