Contents

Agents and Multiagent Systems

Lifted Backward Search for General Game Playing 3
Dave de Jonge and Dongmo Zhang

Corrupt Strategic Argumentation: The Ideal and the Naive 17
Michael J. Maher

Adaptive Multiagent Reinforcement Learning with Non-positive Regret 29
Duong D. Nguyen, Langford B. White, and Hung X. Nguyen

Composability in Cognitive Hierarchies 42
David Rajaratnam, Bernhard Hengst, Maurice Pagnucco, Claude Sammut, and Michael Thielscher

Enable Efficient Resource Deployment in Multiple Concurrent Emergency Events Through a Decentralised MAS 56
Jihang Zhang, Minjie Zhang, Fenghui Ren, and Jiakun Liu

AI Applications and Innovations

Forecasting Monthly Rainfall in the Western Australian Wheat-Belt up to 18-Months in Advance Using Artificial Neural Networks. 71
John Abbot and Jennifer Marohasy

Forecasting Monthly Rainfall in the Bowen Basin of Queensland, Australia, Using Neural Networks with Niño Indices 88
John Abbot and Jennifer Marohasy

A Cluster Analysis of Stock Market Data Using Hierarchical SOMs 101
César A. Astudillo, Jorge Poblete, Marina Resta, and B. John Oommen

A Generative Deep Learning for Generating Korean Abbreviations 113
Su Jeong Choi, A-Yeong Kim, Seong-Bae Park, and Se-Young Park

Medical Prognosis Generation from General Blood Test Results Using Knowledge-Based and Machine-Learning-Based Approaches. 125
Youjin Kim, Jonghwan Hyeon, Kyo-Joong Oh, and Ho-Jin Choi

Deep Learning for Classification of Malware System Call Sequences 137
Bojan Kolosnjaji, Apostolis Zarras, George Webster, and Claudia Eckert

Similarity Matching of Computer Science Unit Outlines in Higher Education 150
Gaurav Langan, James Montgomery, and Saurabh Garg

Parallel Late Acceptance Hill-Climbing Algorithm for the Google Machine Reassignment Problem. 163
Ayad Turky, Nasser R. Sabar, Abdul Sattar, and Andy Song

Concept Drift Detection Using *Online* Histogram-Based Bayesian Classifiers 175
César A. Astudillo, Javier I. González, B. John Oommen, and Anis Yazidi

Visual Odometry in Dynamic Environments with Geometric Multi-layer Optimisation. 183
Haokun Geng, Hsiang-Jen Chien, Radu Nicolescu, and Reinhard Klette

High Resolution SOM Approach to Improving Anomaly Detection in Intrusion Detection Systems 191
Ayu Saraswati, Markus Hagenbuchner, and Zhi Quan Zhou

Big Data

CPF: Concept Profiling Framework for Recurring Drifts in Data Streams. . . . 203
Robert Anderson, Yun Sing Koh, and Gillian Dobbie

Meta-mining Evaluation Framework: A Large Scale Proof of Concept on Meta-learning. 215
William Raynaut, Chantal Soule-Dupuy, and Nathalie Valles-Parlangeau

Bayesian Grouped Horseshoe Regression with Application to Additive Models 229
Zemei Xu, Daniel F. Schmidt, Enes Makalic, Guoqi Qian, and John L. Hopper

Constraint Satisfaction, Search and Optimisation

Improving and Extending the HV4D Algorithm for Calculating Hypervolume Exactly 243
Wesley Cox and Lyndon While

Local Search for Maximum Vertex Weight Clique on Large Sparse Graphs with Efficient Data Structures. 255
Yi Fan, Chengqian Li, Zongjie Ma, Lian Wen, Abdul Sattar, and Kaile Su

Cascade Bayesian Optimization 268
Thanh Dai Nguyen, Sunil Gupta, Santu Rana, Vu Nguyen, Svetha Venkatesh, Kyle J. Deane, and Paul G. Sanders

Assignment Precipitation in Fail First Search 281
Majid Namazi, Nina G. Ghooshchi, M.A. Hakim Newton, and Abdul Sattar

Knowledge Representation and Reasoning

Update Policies 291
Abhijeet Mohapatra, Sudhir Agarwal, and Michael Genesereth

Utilization of DBpedia Mapping in Cross Lingual Wikipedia Infobox Completion 303
Megawati, Saemi Jang, and Mun Yong Yi

A Multi-linguistic-Valued Modal Logic 317
Jinsheng Chen and Xudong Luo

An Empirical Study of a Simple Naive Bayes Classifier Based on Ranking Functions 324
Kinzang Chhogyal and Abhaya Nayak

Cognitive-Task-Based Information Aid Design for Clinical Diagnosis 332
Dong-Gyun Ko, Youkyoung Park, Yoochan Kim, Juyoun Kim, and Wan Chul Yoon

Domain Ontology Construction Using Web Usage Data 338
Thi Thanh Sang Nguyen and Haiyan Lu

Learning Functional Argument Mappings for Hierarchical Tasks from Situation Specific Explanations 345
Gavin Suddrey, Markus Eich, Frederic Maire, and Jonathan Roberts

Ontology Based Data Access with Referring Expressions for Logics with the Tree Model Property: (Extended Abstract) 353
David Toman and Grant Weddell

Machine Learning and Data Mining

Artificial Prediction Markets for Clustering 365
Sina Famouri, Sattar Hashemi, and Mohammad Taheri

Transfer Learning in Probabilistic Logic Models 378
Pouya Ghiasnezhad Omran, Kewen Wang, and Zhe Wang

Co-clustering for Dual Topic Models 390
Santosh Kumar, Xiaoying Gao, and Ian Welch

Optimization of Traffic Signals Using Deep Learning Neural Networks 403
Saman Lawe and Ruili Wang

An Online Competence-Based Concept Drift Detection Algorithm 416
Anjin Liu, Guangquan Zhang, Jie Lu, Ning Lu, and Chin-Teng Lin

Bayesian Robust Regression with the Horseshoe+ Estimator 429
Enes Makalic, Daniel F. Schmidt, and John L. Hopper

High Resolution Self-organizing Maps 441
Van Tuc Nguyen, Markus Hagenbuchner, and Ah Chung Tsoi

Exceptional Contrast Set Mining: Moving Beyond the Deluge of the Obvious 455
Dang Nguyen, Wei Luo, Dinh Phung, and Svetha Venkatesh

Smart Sampling: A Novel Unsupervised Boosting Approach for Outlier Detection 469
Mahsa Salehi, Xuyun Zhang, James C. Bezdek, and Christopher Leckie

Approximating Message Lengths of Hierarchical Bayesian Models Using Posterior Sampling 482
Daniel F. Schmidt, Enes Makalic, and John L. Hopper

Kernel Embeddings of Longitudinal Data 495
Darren Shen and Fabio Ramos

Visual Analytical Tool for Higher Order *k*-Means Clustering for Trajectory Data Mining 507
Ye Wang, Kyungmi Lee, and Ickjai Lee

A Framework for Mining Semantic-Level Tourist Movement Behaviours from Geo-tagged Photos 519
Guochen Cai, Kyungmi Lee, and Ickjai Lee

Learning High-Level Navigation Strategies via Inverse Reinforcement Learning: A Comparative Analysis 525
Michael Herman, Tobias Gindele, Jörg Wagner, Felix Schmitt, Christophe Quignon, and Wolfram Burgard

Artificial Neural Network: Deep or Broad? An Empirical Study 535
Nian Liu and Nayyar A. Zaidi

An Empirically-Sourced Heuristic for Predetermining the Size of the Hidden Layer of a Multi-layer Perceptron for Large Datasets 542
Amanda Lunt and Shuxiang Xu

Distributed Genetic Algorithm on GraphX 548
Seemran Mishra, Young Choon Lee, and Abhaya Nayak

Restricted Echo State Networks 555
Aaron Stockdill and Kourosh Neshatian

Feature-Aware Factorised Collaborative Filtering. 561
Farhad Zafari and Irene Moser

Social Intelligence

Mining Context Specific Inter-personalised Trust for Recommendation Generation in Preference Networks 573
Quan Bai, Weihua Li, and Jing Jiang

Proactive Skill Posting in Referral Networks 585
Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, and Peter J. Jansen

Comprehensive Influence Propagation Modelling for Hybrid Social Network. 597
Weihua Li, Quan Bai, and Minjie Zhang

Multi-agent Planning with Collaborative Actions. 609
Satyendra Singh Chouhan and Rajdeep Niyogi

Text mining and NLP

Open-Domain Question Answering Framework Using Wikipedia 623
Saleem Ameen, Hyunsuk Chung, Soyeon Caren Han, and Byeong Ho Kang

Predicting the Rank of Trending Topics. 636
Dohyeong Kim, Soyeon Caren Han, Sungyoung Lee, and Byeong Ho Kang

A Topic Transition Map for Query Expansion: A Semantic Analysis of Click-Through Data and Test Collections. 648
Kyung-min Kim, Yuchul Jung, and Sung-Hyon Myaeng

Unsupervised Keyphrase Extraction: Introducing New Kinds of Words to Keyphrases. 665
Tho Thi Ngoc Le, Minh Le Nguyen, and Akira Shimazu

Selected Papers from AI 2016 Doctoral Consortium

Shaping Interactive Marketing Communication (IMC) Through Social Media Analytics and Modelling 675
Pornpimon Kachamas

Ingenious Product Form Co-design System for the Industry 4.0 682
Kittipong Sakornsathien

Selected Papers from SMA 2016

Data Lifecycle and Tagging for Internet of Things Applications 691
Sanghong Ahn, Hyeontaek Oh, Hwa Jong Kim, and Jun Kyun Choi

A Content-Based Routing Scheme for Mobile Data Offloading in Pocket Switched Networks 696
Regin Cabacas and In-Ho Ra

Exploring the Use of Big Data Analytics for Improving Support to Students in Higher Education 702
Si Fan, Saurabh Garg, and Soonja Yeom

DataCon: Easier Data Sharing, Exploration, and Fusion with Automatic Metadata Generation 708
Hwa Jong Kim

An Empirical Evaluation of Job Classification Using Online Job Advertisements 714
Yang Sok Kim and Choong Kwon Lee

Robust Text Detection in Natural Scene Images 720
Van Khien Pham and GueeSang Lee

Author Index 727

http://www.springer.com/978-3-319-50126-0

AI 2016: Advances in Artificial Intelligence
29th Australasian Joint Conference, Hobart, TAS, Australia, December 5-8, 2016, Proceedings
Kang, B.H.; Bai, Q. (Eds.)
2016, XVI, 729 p. 433 illus., 120 illus. in color., Softcover
ISBN: 978-3-319-50126-0