

Contents

Part I Search and Optimisation

The Pilot Environmental Performance Index 2006 as a Tool for Optimising Environmental Sustainability at the Country Level	3
Tatiana Tambouratzis Fima	
Integrated Demand and Supply Side Pricing Optimization Schemes for Electricity Market	19
Zixu Liu and Xiao-Jun Zeng	
Dynamic Resource Allocation Through Workload Prediction for Energy Efficient Computing	35
Adeel Ahmed, David J. Brown and Alexander Gegov	
Harmony Search Algorithm for Fuzzy Cerebellar Model Articulation Controller Networks Optimization	45
Dajun Zhou, Fei Chao, Chih-Min Lin, Minghui Shi and Changle Zhou	
A Dynamic Tabu Search Approach for Solving the Static Frequency Assignment Problem	59
Khaled Alrajhi and Wasin Padungwech	
A New Multi-objective Model for Constrained Optimisation	71
Tao Xu, Jun He, Changjing Shang and Weiqin Ying	

Part II Modelling and Simulation

Complex Network Based Computational Techniques for ‘Edgetic’ Modelling of Mutations Implicated with Cardiovascular Disease	89
Ken McGarry, Kirsty Emery, Vithusa Varnakulasingam, Sharon McDonald and Mark Ashton	
TSK Inference with Sparse Rule Bases	107
Jie Li, Yanpeng Qu, Hubert P.H. Shum and Longzhi Yang	

Complexity Control in Rule Based Models for Classification in Machine Learning Context	125
Han Liu, Alexander Gegov and Mihaela Cocea	
Modified Evolving Participatory Learning Algorithms for Takagi-Sugeno Fuzzy System Modelling from Streaming Data	145
Dong-Jiao Ge and Xiao-Jun Zeng	
Guiding Fuzzy Rule Interpolation with Information Gains	165
Fangyi Li, Changjing Shang, Ying Li and Qiang Shen	
Part III Analysis and Detection	
Harnessing the Power of Text Mining for the Detection of Abusive Content in Social Media	187
Hao Chen, Susan Mckeever and Sarah Jane Delany	
Towards Chinese Metaphor Comprehension Based on Attribute Statistic Analysis	207
Hualin Zeng, Xianming Lin, Changle Zhou and Fei Chao	
Bioinformatic Analysis Using Complex Networks and Clustering Proteins Linked with Alzheimer’s Disease	219
Suthinan Rujirapipat, Ken McGarry and David Nelson	
Applications of Asymmetric Networks to Bio-Inspired Neural Networks for Motion Detection	231
Naohiro Ishii, Toshinori Deguchi, Masashi Kawaguchi and Hiroshi Sasaki	
Content Representation for Microblog Rumor Detection	245
Ben Ma, Dazhen Lin and Donglin Cao	
Detecting Anomalous Behaviour Using Heterogeneous Data	253
Azliza Mohd Ali, Plamen Angelov and Xiaowei Gu	
Part IV Cognition and Control	
Human Emotional Understanding for Empathetic Companion Robots	277
Alyxander David May, Ahmad Lotfi, Caroline Langensiepen, Kevin Lee and Giovanni Acampora	
Evolutionary Algorithms with Linkage Information for Feature Selection in Brain Computer Interfaces	287
Jason Adair, Alexander Brownlee and Gabriela Ochoa	
SentiNet: Mining Visual Sentiment from Scratch	309
Lingxiao Li, Shaozi Li, Donglin Cao and Dazhen Lin	

Cognitive and Neuromuscular Robotic Rehabilitation Framework 319
 Atta Badii, Maryam Karimi and Qinggang Meng

**Classification of Human Hand Movements Using Surface EMG
 for Myoelectric Control** 331
 Jiefei Wei, Qinggang Meng and Atta Badii

Vision Based Human Activity Recognition: A Review 341
 Allah Bux, Plamen Angelov and Zulfiqar Habib

Part V Learning and Evolution

Model-Free and Model-Based Active Learning for Regression 375
 Jack O’Neill, Sarah Jane Delany and Brian MacNamee

**(1+1)-Evolutionary Gradient Strategy to Evolve Global
 Term Weights in Information Retrieval** 387
 Osman Ali Sadek Ibrahim and Dario Landa-Silva

**A Data Driven Stopping Criterion for Evolutionary
 Instance Selection** 407
 Walter D. Bennette

**A Method for Location Based Search for Enhancing Facial
 Feature Detection** 421
 Ahmad Al-dahoud and Hassan Ugail

Learning Input Features Representations in Deep Learning 433
 Alan Mosca and George D. Magoulas

Part VI Clustering and Regression

**Natural Language Interface to Relational Database (NLI-RDB)
 Through Object Relational Mapping (ORM)** 449
 Abdullah Alghamdi, Majdi Owda and Keeley Crockett

**On Facial Age Progression Based on Modified Active Appearance
 Models with Face Texture** 465
 Ali Maina Bukar, Hassan Ugail and Nosheen Hussain

Multi Objective Symbolic Regression 481
 C.J. Hinde, N. Chakravorti and A.A. West

Dynamic Stream Clustering Using Ants 495
 Conor Fahy and Shengxiang Yang



<http://www.springer.com/978-3-319-46561-6>

Advances in Computational Intelligence Systems
Contributions Presented at the 16th UK Workshop on
Computational Intelligence, September 7-9, 2016,
Lancaster, UK

Angelov, P.; Gegov, A.; Jayne, C.; Shen, Q. (Eds.)
2017, IX, 508 p. 169 illus., 100 illus. in color., Softcover
ISBN: 978-3-319-46561-6