

Table of Contents

Agents

Measuring the Performance of Online Opponent Models in Automated Bilateral Negotiation	1
<i>Tim Baarslag, Mark Hendriks, Koen Hindriks, and Catholijn Jonker</i>	
Optimistic Agents Are Asymptotically Optimal	15
<i>Peter Sunehag and Marcus Hutter</i>	
An Enhanced Multi-Agent System with Evolution Mechanism to Approximate <i>Physarum</i> Transport Networks	27
<i>Yuheng Wu, Zili Zhang, Yong Deng, Huan Zhou, and Tao Qian</i>	

Applications

Predicting Shellfish Farm Closures with Class Balancing Methods	39
<i>Claire D'Este, Ashfaqur Rahman, and Alison Turnbull</i>	
Automatic Han Chinese Folk Song Classification Using Extreme Learning Machines	49
<i>Suisin Khoo, Zhihong Man, and Zhenwei Cao</i>	
People-to-People Recommendation Using Multiple Compatible Subgroups	61
<i>Yang Sok Kim, Ashesh Mahidadia, Paul Compton, Alfred Krzywicki, Wayne Wobcke, Xiongcai Cai, and Michael Bain</i>	
Automatic Scoring of Erythema and Scaling Severity in Psoriasis Diagnosis	73
<i>Juan Lu, Ed Kazmierczak, Jonathan H. Manton, and Rodney Sinclair</i>	
A Multilayered Ensemble Architecture for the Classification of Masses in Digital Mammograms	85
<i>Peter Mc Leod and Brijesh Verma</i>	
Refined Distractor Generation with LSA and Stylometry for Automated Multiple Choice Question Generation	95
<i>Josef Robert Moser, Christian Gütl, and Wei Liu</i>	
A New Genetic Algorithm for Simplified Protein Structure Prediction	107
<i>Mahmood A. Rashid, Md. Tamjidul Hoque, M.A. Hakim Newton, Duc Nghia Pham, and Abdul Sattar</i>	

Generating Realistic Online Auction Data	120
<i>Sidney Tsang, Gillian Dobbie, and Yun Sing Koh</i>	

Computer Vision

A Robust Global Motion Estimation for Digital Video Stabilization	132
<i>Behnam Babagholami-Mohamadabadi, Amin Jourabloo, and Mohammad T. Manzuri-Shalmani</i>	
Automatic Construction of Invariant Features Using Genetic Programming for Edge Detection	144
<i>Wenlong Fu, Mark Johnston, and Mengjie Zhang</i>	
An Abstract Deep Network for Image Classification	156
<i>Anthony Knittel and Alan D. Blair</i>	
A Dynamic Approach for Detecting Naturalistic Affective States from Facial Videos during HCI	170
<i>Hamed Monkaresi, M.S. Hussain, and Rafael A. Calvo</i>	

Constraints and Search

A Self-adaptive Differential Evolution Algorithm with Constraint Sequencing	182
<i>Md Asafuddoula, Tapabrata Ray, and Ruhul Sarker</i>	
On the Violation of Circuits in Decomposable Negation Normal Form	194
<i>Lucas Bordeaux and Nina Narodytska</i>	
The REGULARGCC Matrix Constraint	206
<i>Ronald de Haan, Nina Narodytska, and Toby Walsh</i>	
A Method to Avoid Duplicative Flipping in Local Search for SAT	218
<i>Thach-Thao Duong, Duc Nghia Pham, and Abdul Sattar</i>	
Anytime Algorithms for Biobjective Heuristic Search	230
<i>Priyankar Ghosh, Partha Pratim Chakrabarti, and Pallab Dasgupta</i>	
ICHEA for Discrete Constraint Satisfaction Problems	242
<i>Anurag Sharma and Dharmendra Sharma</i>	
Anytime Column Search	254
<i>Satya Gautam Vadlamudi, Piyush Gaurav, Sandip Aine, and Partha Pratim Chakrabarti</i>	

Evolutionary Computation

Genetic Programming for Biomarker Detection in Mass Spectrometry Data	266
<i>Soha Ahmed, Mengjie Zhang, and Lifeng Peng</i>	
An Evolutionary Approach for the Design of Autonomous Underwater Vehicles	279
<i>Khairul Alam, Tapabrata Ray, and Sreenatha G. Anavatti</i>	
Unsupervised Learning of Mutagenesis Molecules Structure Based on an Evolutionary-Based Features Selection in DARA	291
<i>Rayner Alfred, Irwansah Amran, Leau Yu Beng, and Tan Soo Fun</i>	
Inference of a Phylogenetic Tree: Hierarchical Clustering versus Genetic Algorithm.....	300
<i>Glenn Blanchette, Richard O'Keefe, and Lubica Benuskova</i>	
A Dimension Reduction Approach to Classification Based on Particle Swarm Optimisation and Rough Set Theory	313
<i>Liam Cervante, Bing Xue, Lin Shang, and Mengjie Zhang</i>	
Evolving Plastic Neural Networks for Online Learning: Review and Future Directions	326
<i>Oliver J. Coleman and Alan D. Blair</i>	
A Multimodal Problem for Competitive Coevolution	338
<i>Philip Hingston, Tirtha Ranjeet, Chiou Peng Lam, and Martin Masek</i>	
XCSR with Computed Continuous Action.....	350
<i>Muhammad Iqbal, Will N. Browne, and Mengjie Zhang</i>	
A Memetic Algorithm for Efficient Solution of 2D and 3D Shape Matching Problems	362
<i>Mohammad Sharif Khan and Tapabrata Ray</i>	
Local Search in Parallel Linear Genetic Programming for Multiclass Classification	373
<i>Aaron Scoble, Mark Johnston, and Mengjie Zhang</i>	

Game Playing

Opponent's Style Modeling Based on Situations for Bayesian Poker.....	385
<i>Ruobing Li, Wenkai Li, Lin Shang, Yang Gao, and Mengjie Zhang</i>	
Game Designers Training First Person Shooter Bots	397
<i>Michelle McPartland and Marcus Gallagher</i>	

Games with Ambiguous Payoffs and Played by Ambiguity and Regret Minimising Players	409
<i>Wei Xiong, Xudong Luo, and Wenjun Ma</i>	

Information Retrieval

Query Expansion Powered by Wikipedia Hyperlinks	421
<i>Carson Bruce, Xiaoying Gao, Peter Andreae, and Shahida Jabeen</i>	
Constrained Grouped Sparsity	433
<i>Yi Guo, Junbin Gao, and Xia Hong</i>	
Reverse Active Learning for Optimising Information Extraction Training Production	445
<i>Dung Nguyen and Jon Patrick</i>	
Adopting Relevance Feature to Learn Personalized Ontologies	457
<i>Yan Shen, Yuefeng Li, and Yue Xu</i>	
Towards Domain Independent Why Text Segment Classification Based on Bag of Function Words	469
<i>Katsuyuki Tanaka, Tetsuya Takiguchi, and Yasuo Arik</i>	

Knowledge Representation

A Delayed Splitting Bottom-Up Procedure for Model Generation	481
<i>Kiyoshi Akama and Ekawit Nantajeewarawat</i>	
A Goal-Oriented Algorithm for Unification in $\mathcal{ELH}_{R+}$ w.r.t. Cycle-Restricted Ontologies	493
<i>Franz Baader, Stefan Borgwardt, and Barbara Morawska</i>	
Normal Modal Preferential Consequence	505
<i>Katarina Britz, Thomas Meyer, and Ivan Varzinczak</i>	
Trust in Context	517
<i>Abhaya C. Nayak</i>	
Complex Analogies: Remarks on the Complexity of HDTP	530
<i>Robert Robere and Tarek Richard Besold</i>	
A General Representation and Approximate Inference Algorithm for Sensing Actions	543
<i>Hanne Vlaeminck, Joost Vennekens, and Marc Denecker</i>	
Systematicity, Accessibility, and Universal Properties	555
<i>William H. Wilson and Steven Phillips</i>	

RDL: Enhancing Description Logic with Rules	567
<i>Yi Zhou and Yan Zhang</i>	

Machine Learning

Approximate Document Outlier Detection Using Random Spectral Projection	579
<i>Mazin Aouf and Laurence A.F. Park</i>	
Exploration / Exploitation Trade-Off in Mobile Context-Aware Recommender Systems	591
<i>Djallel Bouneffouf, Amel Bouzeghoub, and Alda Lopes Gançarski</i>	
Simultaneous Interval Regression for K -Nearest Neighbor	602
<i>Mohammad Ghasemi Hamed, Mathieu Serrurier, and Nicolas Durand</i>	
Kernel-Tree: Mining Frequent Patterns in a Data Stream Based on Forecast Support	614
<i>David Tse Jung Huang, Yun Sing Koh, Gillian Dobbie, and Russel Pears</i>	
An Empirical Comparison of Two Common Multiobjective Reinforcement Learning Algorithms	626
<i>Rustam Issabekov and Peter Vamplew</i>	
A Comparative Study of Sampling Methods and Algorithms for Imbalanced Time Series Classification	637
<i>Guohua Liang and Chengqi Zhang</i>	
An Efficient Adversarial Learning Strategy for Constructing Robust Classification Boundaries	649
<i>Wei Liu, Sanjay Chawla, James Bailey, Christopher Leckie, and Kotagiri Ramamohanarao</i>	
Signal Selection for Sleep Apnea Classification	661
<i>Yashar Maali and Adel Al-Jumaily</i>	
Minimum Message Length Inference and Mixture Modelling of Inverse Gaussian Distributions	672
<i>Daniel F. Schmidt and Enes Makalic</i>	
A Probabilistic Least Squares Approach to Ordinal Regression	683
<i>P.K. Srijith, Shirish Shevade, and S. Sundararajan</i>	
Bagging Ensemble Selection for Regression	695
<i>Quan Sun and Bernhard Pfahringer</i>	

Fixed Frame Temporal Pooling	707
<i>John Thornton, Linda Main, and Andrew Srbic</i>	
DIKEA: Domain-Independent Keyphrase Extraction Algorithm	719
<i>David X. Wang, Xiaoying Gao, and Peter Andreae</i>	
Evolving Event Detectors in Multi-channel Sensor Data	731
<i>Feng Xie, Andy Song, and Vic Ciesielski</i>	
Improving Classification Accuracy on Uncertain Data by Considering Multiple Subclasses	743
<i>Lei Xu and Edward Hung</i>	

Planning and Scheduling

Hierarchical Multi-agent Distribution Planning	755
<i>Tony Allard and Slava Shekh</i>	
Generating Project Plans for Data Center Transformations	767
<i>Amrit Lal Ahuja and Girish Keshav Palshikar</i>	
Planning with Action Prioritization and New Benchmarks for Classical Planning	779
<i>Kamalesh Ghosh, Pallab Dasgupta, and S. Ramesh</i>	
Efficient Solution of Capacitated Arc Routing Problems with a Limited Computational Budget	791
<i>Min Liu and Tapabrata Ray</i>	
Block-Structured Plan Deordering	803
<i>Fazlul Hasan Siddiqui and Patrik Haslum</i>	
Ride-Sharing: A Multi Source-Destination Path Planning Approach	815
<i>Jamal Yousaf, Juanzi Li, Lu Chen, Jie Tang, Xiaowen Dai, and John Du</i>	

Robotics

A Novel Approach to Ball Detection for Humanoid Robot Soccer	827
<i>David Budden, Shannon Fenn, Josiah Walker, and Alexandre Mendes</i>	
Analysis of Cluster Formation Techniques for Multi-robot Task Allocation Using Sequential Single-Cluster Auctions	839
<i>Bradford Heap and Maurice Pagnucco</i>	
On-Line Model-Based Continuous State Reinforcement Learning Using Background Knowledge	851
<i>Bernhard Hengst</i>	

Uncertainty in AI

A Novel D-S Theory Based AHP Decision Apparatus under Subjective Factor Disturbances	863
<i>Wenjun Ma, Xudong Luo, and Wei Xiong</i>	
MML Logistic Regression with Translation and Rotation Invariant Priors	878
<i>Enes Makalic and Daniel F. Schmidt</i>	
Probabilistic Model-Based Assessment of Information Quality in Uncertain Domains	890
<i>Steffen Michels, Marina Velikova, and Peter J.F. Lucas</i>	
Causal Discovery of Dynamic Bayesian Networks.....	902
<i>Cora Beatriz Pérez-Ariza, Ann E. Nicholson, Kevin B. Korb, Steven Mascaro, and Chao Heng Hu</i>	
Author Index	915