

# Contents

## Full Technical Papers

Employing a Restricted Set of Qualitative Relations in Recognizing Plain Sketches . . . . .	3
<i>Ahmed M.H. Abdelfattah and Wael Zakaria</i>	
Interval Based Relaxation Heuristics for Numeric Planning with Action Costs . . . . .	15
<i>Johannes Aldinger and Bernhard Nebel</i>	
Expected Outcomes and Manipulations in Online Fair Division . . . . .	29
<i>Martin Aleksandrov and Toby Walsh</i>	
Most Competitive Mechanisms in Online Fair Division . . . . .	44
<i>Martin Aleksandrov and Toby Walsh</i>	
A Thorough Formalization of Conceptual Spaces . . . . .	58
<i>Lucas Bechberger and Kai-Uwe Kühnberger</i>	
Propagating Maximum Capacities for Recommendation . . . . .	72
<i>Ahcène Boubekki, Ulf Brefeld, Cláudio Leonardo Lucchesi, and Wolfgang Stille</i>	
Preventing Groundings and Handling Evidence in the Lifted Junction Tree Algorithm. . . . .	85
<i>Tanya Braun and Ralf Möller</i>	
Improving the Cache-Efficiency of Shortest Path Search . . . . .	99
<i>Stefan Edelkamp</i>	
Automating Emendations of the Ontological Argument in Intensional Higher-Order Modal Logic. . . . .	114
<i>David Fuenmayor and Christoph Benzmüller</i>	
Real-Time Public Transport Delay Prediction for Situation-Aware Routing. . .	128
<i>Lukas Heppel and Thomas Liebig</i>	
Online Multi-object Tracking-by-Clustering for Intelligent Transportation System with Neuromorphic Vision Sensor . . . . .	142
<i>Gereon Hinz, Guang Chen, Muhammad Aafaque, Florian Röhrbein, Jörg Conradt, Zhenshan Bing, Zhongnan Qu, Walter Stechele, and Alois Knoll</i>	

A Generalization of Probabilistic Argumentation with Dempster-Shafer Theory . . . . .	155
<i>Nguyen Duy Hung</i>	
Evolving Kernel PCA Pipelines with Evolution Strategies . . . . .	170
<i>Oliver Kramer</i>	
An Experimental Study of Dimensionality Reduction Methods . . . . .	178
<i>Almuth Meier and Oliver Kramer</i>	
Planning with Independent Task Networks . . . . .	193
<i>Felix Mohr, Theo Lettmann, and Eyke Hüllermeier</i>	
Complexity-Aware Generation of Workflows by Process-Oriented Case-Based Reasoning . . . . .	207
<i>Gilbert Müller and Ralph Bergmann</i>	
LiMa: Sequential Lifted Marginal Filtering on Multiset State Descriptions . . .	222
<i>Max Schröder, Stefan Lüdtke, Sebastian Bader, Frank Krüger, and Thomas Kirste</i>	
A Priori Advantages of Meta-Induction and the No Free Lunch Theorem: A Contradiction? . . . . .	236
<i>Gerhard Schurz and Paul Thorn</i>	
Dynamic Map Update of Non-static Facility Logistics Environment with a Multi-robot System . . . . .	249
<i>Nayabrusul Shaik, Thomas Liebig, Christopher Kirsch, and Heinrich Müller</i>	
Similarity and Contrast on Conceptual Spaces for Pertinent Description Generation . . . . .	262
<i>Giovanni Sileno, Isabelle Bloch, Jamal Atif, and Jean-Louis Dessalles</i>	
<b>Technical Communications</b>	
Alarm Management on a Liquid Bulk Terminal . . . . .	279
<i>Bram Aerts, Kylian Van Dessel, and Joost Vennekens</i>	
Action Model Acquisition Using Sequential Pattern Mining . . . . .	286
<i>Ankuj Arora, Humbert Fiorino, Damien Pellier, and Sylvie Pesty</i>	
Steering Plot Through Personality and Affect: An Extended BDI Model of Fictional Characters . . . . .	293
<i>Leonid Berov</i>	

Ontological Modelling of a Psychiatric Clinical Practice Guideline . . . . . 300  
*Daniel Gorín, Malte Meyn, Alexander Naumann, Miriam Polzer,  
Ulrich Rabenstein, and Lutz Schröder*

A Logic Programming Approach to Collaborative Autonomous Robotics . . . . . 309  
*Binal Javia and Philipp Cimiano*

Parametrizing Cartesian Genetic Programming: An Empirical Study . . . . . 316  
*Paul Kaufmann and Roman Kalkreuth*

Gesture ToolBox: Touchless Human-Machine Interface  
Using Deep Learning. . . . . 323  
*Elann Lesnes-Cuisiniez, Jesus Zegarra Flores, and Jean-Pierre Radoux*

Analysis of Sound Localization Data Generated  
by the Extended *Mainzer Kindertisch* . . . . . 330  
*Daniel Lückehe, Katharina Schmidt, Karsten Plotz,  
and Gabriele von Voigt*

A Robust Number Parser Based on Conditional Random Fields . . . . . 337  
*Heiko Paulheim*

From Natural Language Instructions to Structured Robot Plans . . . . . 344  
*Mihai Pomarlan, Sebastian Koralewski, and Michael Beetz*

Opportunistic Planning with Recovery for Robot Safety. . . . . 352  
*Bernhard Reiterer and Michael Hofbaur*

Towards Simulation-Based Role Optimization in Organizations . . . . . 359  
*Lukas Reuter, Jan Ole Berndt, and Ingo J. Timm*

One Knowledge Graph to Rule Them All? Analyzing the Differences  
Between DBpedia, YAGO, Wikidata & co. . . . . 366  
*Daniel Ringler and Heiko Paulheim*

ClassifyHub: An Algorithm to Classify GitHub Repositories . . . . . 373  
*Marcus Soll and Malte Vosgerau*

Bremen Big Data Challenge 2017: Predicting University Cafeteria Load . . . . . 380  
*Jochen Weiner, Lorenz Diener, Simon Stelter, Eike Externest,  
Sebastian Kühn, Christian Herff, Felix Putze, Timo Schulze,  
Mazen Salous, Hui Liu, Dennis Küster, and Tanja Schultz*

Towards Sentiment Analysis on German Literature . . . . . 387  
*Albin Zehe, Martin Becker, Fotis Jannidis, and Andreas Hotho*

**Author Index** . . . . . 395



<http://www.springer.com/978-3-319-67189-5>

KI 2017: Advances in Artificial Intelligence  
40th Annual German Conference on AI, Dortmund,  
Germany, September 25–29, 2017, Proceedings  
Kern-Isberner, G.; Fürnkranz, J.; Thimm, M. (Eds.)  
2017, XIX, 396 p. 103 illus., Softcover  
ISBN: 978-3-319-67189-5