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Volume 58

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Gordan Jezic · Yun-Heh Jessica Chen-Burger
Robert J. Howlett · Lakhmi C. Jain
Editors

Agent and Multi-Agent Systems: Technology and Applications

10th KES International Conference, KES-AMSTA 2016 Puerto de la Cruz, Tenerife, Spain, June 2016 Proceedings

Springer

Editors
Gordan Jezic
Faculty of Electrical Engineering and Computing
University of Zagreb
Zagreb
Croatia

Yun-Heh Jessica Chen-Burger
School of Mathematical and Computer Sciences
Heriot-Watt University
Edinburgh
UK

Robert J. Howlett
KES International
Shoreham-by-sea
UK

Lakhmi C. Jain
University of Canberra
Canberra
Australia

and

Bournemouth University
Poole
UK

and

KES International
Shoreham-by-sea
UK

ISSN 2190-3018 ISSN 2190-3026 (electronic)
Smart Innovation, Systems and Technologies
ISBN 978-3-319-39882-2 ISBN 978-3-319-39883-9 (eBook)
DOI 10.1007/978-3-319-39883-9

Library of Congress Control Number: 2016940343

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG Switzerland

Preface

This volume contains the proceedings of the 10th KES Conference on Agent and Multi-Agent Systems—Technologies and Applications (KES-AMSTA 2016) held in Puerto de la Cruz, Tenerife, Spain, between 15 and 17 June 2016. The conference was organized by KES International, its focus group on agent and multi-agent systems and University of Zagreb, Faculty of Electrical Engineering and Computing. The KES-AMSTA conference is a subseries of the KES conference series.

Following the successes of previous KES Conferences on Agent and Multi-Agent Systems—Technologies and Applications, held in Sorrento, Italy (KES-AMSTA 2015); Chania, Greece (KES-AMSTA 2014); Hue, Vietnam (KES-AMSTA 2013); Dubrovnik, Croatia (KES-AMSTA 2012); Manchester, UK (KES-AMSTA 2011); Gdynia, Poland (KES-AMSTA 2010); Uppsala, Sweden (KES-AMSTA 2009); Incheon, Korea (KES-AMSTA 2008); and Wrocław, Poland (KES-AMSTA 2007), the conference featured the usual keynote talks, oral presentations and invited sessions closely aligned to the established themes of the conference.

KES-AMSTA is an international scientific conference for discussing and publishing innovative research in the field of agent and multi-agent systems and technologies applicable in the digital and knowledge economy. The aim of the conference was to provide an internationally respected forum for both the research and industrial communities on their latest work on innovative technologies and applications that is potentially disruptive to industries. Current topics of research in the field include technologies in the area of mobile and cloud computing, big data analysis, business intelligence, artificial intelligence, social systems, computer embedded systems and nature inspired manufacturing. Special attention is paid on the feature topics: business process management, agent-based modelling and simulation, anthropic-oriented computing, learning paradigms, and business informatics and gaming.

The conference attracted a substantial number of researchers and practitioners from all over the world who submitted their papers for main track covering the methodologies of agent and multi-agent systems applicable in the digital and

knowledge economy, and five invited sessions on specific topics within the field. Submissions came from 16 countries. Each paper was peer-reviewed by at least two members of the International Programme Committee and International Reviewer Board. 28 papers were selected for oral presentation and publication in the volume of the KES-AMSTA 2016 proceedings.

The Programme Committee defined the main track entitled Agent and Multi-Agent Systems and the following invited sessions: Agent-based Modeling and Simulation (ABMS), Business Process Management (BPM), Learning Paradigms and Applications: Agent-based Approach (LP:ABA), Anthropic-Oriented Computing (AOC), and Business Informatics and Gaming through Agent-based Modelling.

Accepted and presented papers highlight new trends and challenges in agent and multi-agent research. We hope that these results will be of value to the research community working in the fields of artificial intelligence, collective computational intelligence, robotics, dialogue systems and, in particular, agent and multi-agent systems, technologies, tools and applications.

The Chairs' special thanks go to the following special session organizers: Dr. Roman Šperka, Silesian University in Opava, Czech Republic; Prof. Mirjana Ivanović, University of Novi Sad, Serbia; Prof. Costin Badica, University of Craiova, Romania; Prof. Zoran Budimac, University of Novi Sad, Serbia; Prof. Manuel Mazzara, Innopolis University, Russia; Max Talanov, Kazan Federal University and Innopolis University, Russia; Prof. Jordi Vallverdú, Universitat Autònoma de Barcelona, Spain; Prof. Salvatore Distefano, University of Messina, Italy; Prof. Robert Lowe, University of Skövde/University of Gothenburg, Sweden; Prof. Joseph Alexander Brown, Innopolis University, Russia; Assoc. Prof. Setsuya Kurahashi, University of Tsukuba, Japan; Prof. Takao Terano, Tokyo Institute of Technology, Japan; Prof. Hiroshi Takahashi, Keio University, Japan; and España for their excellent work.

Thanks are due to the Programme Co-chairs, all Programme and Reviewer Committee members, and all the additional reviewers for their valuable efforts in the review process, which helped us to guarantee the highest quality of selected papers for the conference.

We cordially thank all authors for their valuable contributions and all of the other participants in this conference. The conference would not be possible without their support.

April 2016

Gordan Jezic
Yun-Heh Jessica Chen-Burger
Robert J. Howlett
Lakhmi C. Jain

KES-AMSTA 2016 Conference Organization

KES-AMSTA 2016 was organized by KES International—Innovation in Knowledge-Based and Intelligent Engineering Systems.

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Agent-Based Modelling and Simulation

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Anthropic-Oriented Computing

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Learning Paradigms and Applications: Agent-Based Approach

Prof. Mirjana Ivanovic, University of Novi Sad, Serbia
Prof. Zoran Budimac, University of Novi Sad, Serbia
Prof. Costin Badica, University of Craiova, Romania
Prof. Lakhmi Jain, University of Canberra, Australia and Bournemouth University, UK

Business Informatics and Gaming Through Agent-Based Modelling

Assoc. Prof. Setsuya Kurahashi, University of Tsukuba, Japan
Prof. Takao Terano, Tokyo Institute of Technology, Japan
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