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Volume 96

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Agents and Multi-Agent Systems: Technologies and Applications 2018

Proceedings of the 12th International Conference on Agents and Multi-Agent Systems: Technologies and Applications (KES-AMSTA-18)

Springer

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Preface

This volume contains the proceedings of the 12th KES Conference on Agent and Multi-Agent Systems: Technologies and Applications (KES-AMSTA 2018) which will be held in Gold Coast, Australia, between 20 and 22 June 2018. 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 success of previous KES conferences on Agent and Multi-Agent Systems: Technologies and Applications, held in Vilamoura, Portugal (KES-AMSTA 2017), Puerto de la Cruz, Tenerife, Spain (KES-AMSTA 2016), 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 Wroclaw, Poland (KES-AMSTA 2007), the conference featured the usual keynote talks, oral presentations and invited sessions closely aligned to its established themes.

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 is 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, Internet of Things (IoT), business intelligence, artificial intelligence, social systems, computer embedded systems and nature-inspired manufacturing. Special attention is paid on the feature topics: agent interaction and collaboration, modelling and simulation agents, social networks, business informatics, intelligent agents and multi-agent systems.

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 three invited sessions on specific topics within the field. Submissions came from 15 countries. Each paper was peer-reviewed by at least two members of the International Programme Committee and International Reviewer Board. Thirty-four papers were selected for oral presentation and publication in the volume of the KES-AMSTA 2018 proceedings.

The Programme Committee defined the following main tracks: intelligent agent interaction and collaboration, modelling, simulation and mobile agents, and agent communication and social networks. In addition to the main tracks of the conference, there were the following invited sessions: design and implementation of intelligent agents and multi-agent systems, business informatics and business process management.

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, health, 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: Prof. Lenin G. Lemus-Zúñiga, Universitat Politècnica de València, España; Prof. Arnulfo Alanis Garza, Instituto Tecnológico de Tijuana, México; Prof. Setsuya Kurahashi, University of Tsukuba, Tokyo; Prof. Takao Terano, Tokyo Institute of Technology, Japan; and Prof. Hiroshi Takahashi, Keio University, Japan, 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 2018

Gordan Jezic
Jessica Chen-Burger
Robert J. Howlett
Lakhmi C. Jain
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Roman Šperka

KES-AMSTA-2018 Conference Organization

KES-AMSTA 2018 was organized by KES International—Innovation in Knowledge-Based and Intelligent Engineering Systems.

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Victor Rivera	Innopolis University, Russia

The design and Implementation of Intelligent Agents and Multi-agent Systems

Lenin G. Lemus-Zuniga	Universitat Politecnica de Valencia, Spain
Arnulfo Alanis Garza	Instituto Tecnologico de Tijuana, Mexico

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