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Robert J. Howlett Lakhmi C. Jain (Eds.)

Agent and Multi-Agent Systems: Technologies and Applications

4th KES International Symposium, KES-AMSTA 2010
Gdynia, Poland, June 23-25, 2010, Proceedings
Part II

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4th International KES Symposium on Agents and Multi-Agent Systems – Technologies and Applications, Proceedings, Part II

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Preface

This volume contains the proceedings (Part II) of the 4th KES Symposium on Agent and Multi-Agent Systems – Technologies and Applications (KES-AMSTA 2010) held at Gdynia Maritime University in Poland during June 23–25, 2010. The symposium was organized by Gdynia Maritime University, KES International and its Focus Group on Agent and Multi-Agent Systems. The KES-AMSTA Symposium series is a sub-series of the KES Conference series.

Following the successes of the First KES Symposium on Agent and Multi-Agent Systems – Technologies and Applications (KES-AMSTA 2007) held in Wrocław, Poland, the Second KES Symposium on Agent and Multi-Agent Systems (KES-AMSTA 2008) held in Incheon, Korea, and the Third KES Symposium on Agent and Multi-Agent Systems (KES-AMSTA 2009) held in Uppsala, Sweden, KES-AMSTA 2010 featured keynote talks, oral presentations, and a number of invited sessions, closely aligned to the theme of the conference.

The aim of the symposium was to provide an internationally respected forum for scientific research in the technologies and applications of agent and multi-agent systems. The discussed field is concerned with the development and analysis of sophisticated, AI-based problem-solving and control architectures for both single-agent and multiple-agent systems. Current topics of research in multi-agent systems include, among others, agent-oriented software engineering, beliefs, desires, and intentions, agent cooperation, coordination, negotiation, organization and communication, distributed problem solving, specification of agent communication languages and formalization of ontologies.

The symposium attracted a substantial number of researchers and practitioners from all over the world who submitted their papers for nine main tracks covering the methodology and applications of agent and multi-agent systems and five special sessions on specific topics within the field. Submissions came from over 35 countries. Each paper was peer reviewed by at least two members of the International Program Committee and International Reviewer Board. Only 83 papers were selected for oral presentation and publication in the two volumes of the KES-AMSTA 2010 proceedings.

The Program Committee defined the following main tracks: Multi-Agent Systems Design and Implementation, Negotiations and Social Issues, Web Services and Semantic Web, Cooperation, Coordination and Teamwork, Agent-Based Modeling,

Simulation and Decision Making, Multi-Agent Applications, Management and e-Business, Mobile Agents and Robots, and Machine Learning. In addition to the main tracks of the symposium there were the following five special sessions: Agent-Based Optimization (ABO2010), Agent-Enabled Social Computing (AESC2010), Digital Economy (DE2010), Using Intelligent Systems for Information Technology Assessment (ISITA2010) and a Doctoral Track.

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

We would like to express our sincere thanks to the Honorary Chairs, Romuald Cwilewicz, President of the Gdynia Maritime University, Poland, and Lakhmi C. Jain, University of South Australia, Australia, for their support.

Our special thanks go to the Local Organizing Committee chaired by Ireneusz Czarnowski, who did very solid and excellent work. Thanks are due to the Program Co-chairs, all Program 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 the organizers and chairs of special sessions, which essentially contributed to the success of the conference.

We would like to thank our main sponsor, Gdynia Maritime University. Our special thanks also go to Springer for publishing the proceedings, and we thank our other sponsors for their kind support.

We would also like to express our thanks to the keynote speakers—Joanna Józefowska, Sankar Kumar Pal, Andrzej Skowron, Alex Rogers, and Paolo Torroni, for their interesting and informative talks of world-class standard. We cordially thank all the authors for their valuable contributions and all the other participants of this conference. The conference would not have been possible without their support.

Piotr Jędrzejowicz
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