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Multiagent System Technologies

14th German Conference, MATES 2016
Klagenfurt, Österreich, September 27–30, 2016
Proceedings

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Preface

These are the proceedings of the 14th German conference on Multiagent System Technologies, which was held on September 27–30, 2016, in Klagenfurt, Austria. The MATES 2016 conference was organized in cooperation with the Distributed Artificial Intelligence (DAI) chapter of the German Society for Informatics (GI), and sponsored by the GI. Moreover, it was co-located with the 46th Annual Symposium of the German Society for Informatics (INFORMATIK 2016) and the 39th German AI Conference (KI 2016).

The set of regular MATES 2016 conference talks covered a broad area of topics of interest including MAS engineering and modeling, issues of human-agent interaction, collaboration and coordination, agent-based adaptation and optimization, and applications of MAS, in particular in the smart energy domain. In keeping with its tradition, MATES 2016 also offered four excellent invited keynotes by well-known, reputed scientists in the domain, covering relevant topics of the broad area of intelligent agent technology. Elisabeth André from the University of Augsburg, Germany, described various computational approaches to implementing empathic behavior in a robot. Besides analytic approaches that are informed by theories from the cognitive and social sciences, she discussed empirical approaches that enable a robot to learn empathic behavior from recordings of human-human interactions or from live interactions with human interlocutors. Peter Palensky from the Technical University of Delft, The Netherlands, addressed the design of agent systems for power grids, and what we can expect from agents in cyber-physical energy systems in the future. Ryszard Kowalczyk from Swinburne University of Technology, Australia, presented selected research results in the areas of agent-based decision support systems in various application domains including traffic control, cloud computing, and micro-grids. Finally, Ulrich Furbach from the Unviersity of Koblenz, Germany, (who was this year's joint keynote speaker of MATES and KI) discussed the use of first order automated reasoning in question answering and cognitive computing, and its relation to human reasoning as investigated in cognitive psychology.

Additionally, the MATES doctoral consortium (DC) program, chaired by Alexander Pokahr, offered PhD students a platform to present and to discuss their work in an academic professional environment. Students presented their PhD projects in joint sessions receiving feedback and suggestions from their peers and experienced researchers. Moreover, each PhD student was assigned a mentor offering the student the opportunity to interact with an expert in the field on an individual basis. The mentors gave personalized feedback on the students' work and provided advice for their (academic) career development.

Overall, we received 28 submissions, each of which was peer-reviewed by at least two members of the international Program Committee. Ten papers were accepted for long presentation, and five papers were accepted for short presentation at the main conference.

This volume includes selected and revised contributions from the MATES 2016 conference and its DC program, and an invited paper. The MATES 2016 conference issued a best paper award and a best system demonstration award, which were sponsored by the DAI Lab at TU Berlin.

As co-chairs and in the name of the MATES Steering Committee, we are very thankful to the authors and invited speakers for contributing to this conference, the Program Committee members and additional reviewers for their timely and helpful reviews of the submissions, as well as the local organization team around Heinrich C. Mayr at the University of Klagenfurt for their help in making MATES 2016 a success. Besides, we are indebted to Alfred Hofmann and the whole Springer LNAI team for their very kind and excellent support in publishing these proceedings and for their continuous support of the MATES conference over the past 14 years.

Finally, we hope you enjoyed the MATES 2016 conference and drew some inspiration and helpful insights from attending it!

July 2016

Matthias Klusch
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