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Preface

The yearly German Conference on Artificial Intelligence is the premier forum for German research in artificial intelligence, and attracts numerous international guests, too. The KI conferences traditionally bring together academic and industrial researchers from all areas of AI and are a premier forum for exchanging news and research results on theory and applications of all aspects of AI.

KI 2012, the 35th event in this series, reflected this long-standing tradition, and continued to mirror the trends and developments of the science. KI 2012 was held on September 23–26, 2012 in Saarbrücken, Germany.

This volume contains the technical papers of KI 2012. For the technical program, we received 57 complete submissions (48 full papers, 9 short papers). From the 48 full papers, 19 were unconditionally and 2 were conditionally accepted and a further 7 were accepted as short papers. From the 9 short papers, 3 were accepted for presentation during the conference. Each submission received at least three reviews and the members of the Program Committee invested considerable effort in the discussion of the submissions.

The program of the main conference also included three invited talks: “Exploring the Potential of Social Signal Processing for Human-Machine Interaction: Synergies and Challenges” by Elisabeth André from Augsburg University, “Biosignals and Interfaces” by Tanja Schultz from the Karlsruhe Institute of Technology, and “Semantics \sqcap Scalability $\models \perp$?” by Ian Horrocks from the University of Oxford.

The conference was accompanied by a doctoral consortium in which eight PhD students presented their work to the KI audience and received feedback and advice from senior researchers in the field.

The first day of the program also featured six workshops with many additional research presentations:

- Dirk Reichardt organized the 6th Workshop on “Emotion and Computing – Current Research and Future Impact”
- Sebastian Rudolph, Heiner Stuckenschmidt, and Matthias Thimm organized “AI on the Web”
- Jürgen Sauer, Stefan Edelkamp, and Bernd Schattenberg organized the 27th Workshop on “Planning and Scheduling, Configuration and Design” (PuK 2012)
- Thomas Barkowsky, Marco Ragni, and Frieder Stolzenburg organized “Human Reasoning and Automated Deduction”
- Kristina Yordanova, Sebastian Bader, and Frank Krüger organized “From Modeling to Assistance” (M2A)
- Frank Wallhoff, Bernd Schönebeck, and Stefan Goetze organized “Dialog Systems That Think Along – Do They Really Understand Me?”

In addition to the workshops, the program of the first conference day included four tutorials:

- Philippe Balbiani organized “Region-Based Theories of Space”
- Sabine Janzen and Wolfgang Maass organized “Designing Ambient Intelligence Environments”
- Marco Ragni, Rebecca Albrecht, and Stefano Bennati organized “The Cognitive Architecture ACT-R”
- Jens Hauptert, Alexander Kröner, and Boris Brandherm organized “Object Memory Tools: Tailoring a Thing’s Data Collection and Communication Behavior”

The organization of a conference like this one is only possible with the support of many individuals. First of all, the organizers wish to thank the authors for their contributions. We had a very strong and competent Program Committee consisting of 67 members, which ensured that each submission underwent several thorough and timely reviews. We want to thank all Program Committee members for taking the time to read, review, and discuss the submissions. Last but not least, we thank the members of the KI 2012 organizing committee:

- Local Chair: Boris Brandherm (Saarland University)
- Workshop Chair: Gabriele Kern-Isberner (TU Dortmund)
- Tutorial Chair: Wolfgang Maaß (Saarland University)
- Poster and Demo Chair: Stefan Wöfl (University of Freiburg)
- Doctorial Consortium Chair: Carsten Lutz (University of Bremen)
- Publicity Chair: Daniel Sonntag (DFKI)

We extend our thanks to all other people and institutions who helped make KI 2012 a success, especially the German Research Center for Artificial Intelligence (DFKI), Saarland University, Springer, and EasyChair.

July 2012

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