

International Conference on Knowledge Technologies and Data-driven Business 2017 (i-KNOW 2017) - Workshop Proceedings

Editors - Workshop Organizers (alphabetical
second name)

Mario Aehnel
Olivia Bluder
Gert Breiffuss
Rene Kaiser
Roman Kern
Ralf Klamma
Dominik Kowald
Tobias Ley
Elisabeth Lex
Christiana Müller
Viktoria Pammer-Schindler
Romana Rauter
Gerald Reiner
Eduardo Veas

Preface

The i-KNOW Conference has by now a 17-year long tradition of discussing knowledge technologies - technologies that support all organisational activities in relationship to knowledge - across science and industry. These proceedings collect the papers discussed in more focussed workshops that deal with the full range of topics such as

- Impact and opportunities for business at a strategic level (**Workshop “Platform Economy and Business Model”**) and from the perspective of the human in an increasingly automated world (**Workshop “HCI@I4.0 - Human Computer Interaction Perspectives on Industry 4.0”**). The workshop on platform based business models is zooming into success factors, business model patterns and benefits for various partners within the growing field of platform economy. The papers provide a general insight into big data platform development focussing on agriculture and automotive sector. HCI@I4.0 is dealing here with the challenges of a new era in industrial digitalisation and automatisisation by developing and providing practical

assistance solutions which bring together again the power of digital automation with the flexibility of human intelligence. The papers pick up and present examples of best practice and lessons learned from researching and rolling out novel methods and technologies for worker-focused assistance under industrial conditions.

- Specific technologies such as recommender systems (**RSSNA - International Workshop on Recommender Systems and Social Network Analysis**) or algorithms and technologies that process data from manufacturing processes in the realm of digitization and datafication (**SAMI40 – 2nd International Workshop on Science, Application and Methods in Industry 4.0**). Recommender systems have become increasingly pervasive in our daily lives to support users in identifying relevant content in complex systems such as the Web. Such content is often created in Online social networks and social media sites, where users can produce and publish new content directly or indirectly by establishing new links between people, information, and services. The papers of the RSSNA workshop bring together scientific as well as industrial aspects of these two lines of research. The SAMI40 workshop consisted of presentation from peer-reviewed papers, a demo and poster session and also offered a forum for discussing up-to-date challenges and impacts of research and innovation efforts under the *Industry 4.0* umbrella term. Special attention was given to topics like the current capabilities of computer vision approaches based on deep learning, and human-centric perspectives on what is changing in today's (semiconductor) factories and affects future human tasks regarding qualifications needed, physical and cognitive stress.

Across all workshops we share the understanding that information and communication technologies by now significantly shape business at all levels; and the interest in discussing opportunities, risks, and technical as well as organisational challenges that arise.

We would like to acknowledge all reviewers and authors, who were submitting a contribution to the i-KNOW workshops, as well as everybody else who contributed to poster sessions and panel discussions, or in the form of keynotes and questions from the audience. With this collection of papers we think to provide an interesting and stimulating basis for further research.

See the full descriptions of the workshops and their program:
<https://i-know.tugraz.at/i-know-2017/scientific-workshops-2017/>

Mario Aehnelt, Olivia Bluder, Gert Breitfuss, Rene Kaiser, Roman Kern, Ralf Klamma, Dominik Kowald, Tobias Ley, Elisabeth Lex, Christiana Müller, Viktoria Pammer-Schindler, Romana Rauter, Gerald Reiner, Eduardo Veas