

Yinglin Wang
Tianrui Li (Eds.)

Practical Applications of Intelligent Systems

Proceedings of the Sixth International Conference
on Intelligent Systems and Knowledge Engineering,
Shanghai, China, Dec 2011 (ISKE 2011)

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Preface

We would like to extend our warmest welcome to each conference attendee. The 2011 International Conference on Intelligent Systems and Knowledge Engineering (ISKE2011) is the sixth in a series of ISKE conferences, which follows the successful ISKE2006 in Shanghai, ISKE2007 in Chengdu, and ISKE2008 in Xiamen, China, ISKE2009 in Hasselt, Belgium, and ISKE2010 in Hangzhou, China. ISKE2011 will be held in Shanghai, China, during December 15–17, 2011. It has been our pleasure as Program Committee Co-Chairs and Conference Co-Chair to organize this impressive scientific and technical program and the technical proceedings. ISKE2011 emphasizes current practices, experiences and promising new ideas in the broad area of intelligent systems and knowledge engineering. It provides a forum for researchers and practitioners around the world to present their latest results in research and applications and exchange new ideas in this field. ISKE 2011 is technically organized by Shanghai Jiao Tong University, and co-sponsored by California State University, Southwest Jiaotong University, Belgian Nuclear Research Centre (SCK•CEN).

We received 605 submissions from 26 countries and regions. We are very pleased with this level of submission and international participation. From these 605 submissions, the program committee selected 262 papers (including 109 full papers and 153 short papers), based on their originality, significance, correctness, relevance, and clarity of presentation, to be included in the proceedings. The acceptance rate of full papers is 18%, which we are proud of. The acceptance rate of short papers is 25%. Besides the papers in the conference proceedings, we also selected 44 papers from the submissions to be published in the Journal of Shanghai Jiao Tong University and the Journal of Donghua University. All the accepted papers will be presented or posted at the conference. Each of them was reviewed by two or more reviewers and the authors were asked to address each comment made by the reviewers for improving the quality of their papers. The acceptance rate of all the papers in the proceedings is 43%.

The accepted papers in the proceedings are contained in three volumes respectively based on the topics of the papers. The proceedings include “Volume I: Foundations of Intelligent Systems”, “Volume II: Knowledge Engineering and Management” and “Volume III: Practical Applications of Intelligent Systems”. Topics covered by the accepted papers in each volume of the proceedings are as follows:

Volume 1: Foundations of Intelligent Systems

Artificial Intelligence	46
Pattern Recognition, Image and Video Processing	40
Cognitive Science and Brain-Computer Interface	1

Volume 2: Knowledge Engineering and Management

Optimization and Biological Inspired Computation	12
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Robotics	11
Knowledge Engineering and Management	13
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Volume 3: Practical Applications of Intelligent Systems

Social Computing, Mobile and Service Computing	8
Intelligent Game and Human Computer Interaction	6
Intelligent Engineering Systems	46
Intelligent Control Systems	9
Intelligent GIS, Networks or the Internet of Things	5
Social Issues of Knowledge Engineering	15

Accepted papers come from 23 countries, which shows that ISKE 2011 is a well-represented major international event, and their statistics (only papers of the proceeding, not include 44 papers which will be published in two journals) in terms of country are as follows:

China	212	Iran	2
Spain	8	Belgium	2
Australia	7	France	1
Brazil	5	Serbia	1
UK	6	Japan	1
USA	4	Vietnam	1
Russia	3	Sweden	1
Finland	3	Germany	1
Turkey	3	Saudi Arabia	1
Canada	2	Pakistan	1
Algeria	2	Korea	1
Poland	2		

ISKE 2011 consists of a three-day conference which includes paper and poster tracks, three invited keynote talks and two tutorials. The keynotes, tutorials and technical sessions cover a wide range of topics in intelligent systems and knowledge engineering.

The three invited speakers are Witold Pedrycz, University of Alberta, Canada; Ronald R. Yager, Iona College, New Rochelle, USA; and Zhi-Hua Zhou, Nanjing University, China. Witold Pedrycz will give a talk on granular models of time series and spatiotemporal data under the title of “User-Centric Models of Temporal and

Spatiotemporal Data: A Perspective of Granular Computing.” He will discuss a new category of models in which the mechanisms of description, processing, and predicting temporal and spatiotemporal data are expressed in the language of information granules, especially fuzzy sets and intervals. Ronald R. Yager’s talk is entitled “Intelligent Social Network Modeling.” He will discuss an approach to enrich the social network modeling by introducing ideas from fuzzy sets and related granular computing technologies. Zhi-hua Zhou will discuss the current research results of his group in the machine learning area.

The two invited tutorial speakers are Gio Wiederhold, Stanford University and Jie Lu, University of Technology, Sydney (UTS), Australia. Gio Wiederhold’s tutorial entitled “What is Your Software Worth?” will describe how the value of software can be estimated, and emphasize that awareness of the value of the product of one’s knowledge and effort can help in making decisions on the design and the degree of effort to be made. Jie Lu’s tutorial entitled “Personalized Recommender Systems for e-Government and e-Business Intelligence” will introduce several recommendation approaches, including case-based recommendation, ontology-based recommendation, fuzzy measure based recommendation, trust social networks-based recommendation related approaches and, in particular, present the recent developments made by her group in recommender systems and their applications in e-government and e-business intelligence.

As Program Committee Co-chairs and Conference Co-chair, we are grateful to all the authors who chose to contribute to ISKE2011. We want to express our sincere appreciation to the Program Committee Members listed below and to the additional reviewers for their great and quality work on reviewing and selecting the papers for the conference. We also would like to thank the webmasters, the registration secretary and financial secretary for their hard work. Last but certainly not the least, we would like to thank all the people involved in the organization and session-chairing of this conference. Without their contribution, it would not have been possible to produce this successful and wonderful conference. At this special occasion, we would especially like to acknowledge our respects and heartfelt gratitude to Professor Da Ruan, the Conference Co-chair of ISKE 2011 and the leading initiator of the ISKE conference series, for his hard work to prepare for this year’s conference. Professor Da Ruan worked tirelessly for the conference until he suddenly passed away on July 31. Our thoughts and prayers are with his family. Besides of the above, we also thank all the sponsors of the conference, the National Science Foundation of China (No. 60873108, No. 60773088) and the Springer Publishing Company for their support in publishing the proceedings of ISKE 2011.

Finally we hope that you find ISKE2011 programs rewarding and that you enjoy your stay in the beautiful city of Shanghai.

December 15–17, 2011

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