

# Lecture Notes in Artificial Intelligence 7661

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# Foundations of Intelligent Systems

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## Volume Editors

Li Chen  
Hong Kong Baptist University  
224 Waterloo Road, Kowloon, Hong Kong  
E-mail: lichen@comp.hkbu.edu.hk

Alexander Felfernig  
Graz University of Technology  
Institute for Software Technology  
Inffeldgasse 16b, 8010 Graz, Austria  
E-mail: alexander.felfernig@ist.tugraz.at

Jiming Liu  
Hong Kong Baptist University  
224 Waterloo Road, Kowloon, Hong Kong  
E-mail: jiming@comp.hkbu.edu.hk

Zbigniew W. Ras  
University of North Carolina, Charlotte, NC 28223, USA and  
Warsaw University of Technology, Nowowiejska 15/19, 00-665 Warsaw, Poland  
E-mail: ras@uncc.edu

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# Preface

This volume contains the papers selected for presentation at the 20th International Symposium on Methodologies for Intelligent Systems (ISMIS 2012), held in Macau, December 4–7, 2012. The symposium was organized by the Department of Computer Science at Hong Kong Baptist University, and held in conjunction with the Web Intelligence 2012 Congress (WIC 2012) that included four other intelligent informatics-related conferences: Active Media Technology 2012 (AMT 2012), Brain Informatics 2012 (BI 2012), IEEE/WIC/ACM Web Intelligence 2012 (WI 2012), and IEEE/WIC/ACM Intelligent Agent Technology 2012 (IAT 2012). In 2012, ISMIS was also a special event of the Alan Turing Year (Centenary of Alan Turing's birth).

ISMIS is a conference series that started in 1986. It is an established and prestigious conference for exchanging the latest research results in building intelligent systems. The scope of ISMIS is intended to represent a wide range of topics on applying artificial intelligence techniques to areas as diverse as decision support, automated deduction, reasoning, knowledge-based systems, machine learning, computer vision, robotics, planning, databases, information retrieval, and so on. ISMIS provides a forum and a means for exchanging information for those interested purely in theory, those interested primarily in implementation, and those interested in specific research and industrial applications.

The following major areas were selected in the regular track of ISMIS 2012: knowledge discovery and data mining, intelligent information systems, text mining and language processing, knowledge representation and integration, music information retrieval, and recommender systems. Moreover, five special sessions were organized: Technology Intelligence and Applications, Product Configuration, Human Factors in Information Retrieval, Social Recommender Systems, and Warehousing and OLAPing Complex, Spatial and Spatio-Temporal Data. Out of 88 submissions, 51 contributed papers were accepted for publication, among which 41 were accepted as regular papers and 10 were accepted as short papers. Every paper was reviewed by at least two reviewers in the international Program Committee. The ISMIS 2012 conference was additionally accompanied by two pre-conference workshops: the International Workshop on Privacy-Aware Intelligent Systems and the International Workshop on Domain Knowledge in Knowledge Discovery. More notably, we had two distinguished researchers to give the keynotes. One was the Turing keynote speaker, Prof. Edward Feigenbaum, (Stanford University, USA), who was the 1994 Turing Award Winner and the other was Prof. Alfred Kobsa (University of California, Irvine, USA).

We wish to express our special thanks to the major committee members of ISMIS 2012: William Kwok Wai Cheung (Workshop Chair), Howard Leung (Publicity Chair), Hao Wang (Sponsorship Chair), Alvin Chin (Industrial Track Chair), and Kelvin Chi Kuen Wong (Organizing Chair). We also thank the organizers of special sessions, namely, Hanmin Jung (Special Session on Technology Intelligence and Applications); Andreas Falkner and Deepak Dhungana (Special Session on Product Configuration); Anne Boyer and Sylvain Castagnos (Special Session on Human Factors in Information Retrieval); Linyuan Lü and Zi-Ke Zhang (Special Session on Social Recommender Systems); Alfredo Cuzzocrea (Special Session on Warehousing and OLAPing Complex, Spatial and Spatio-Temporal Data). We are grateful to Ryan Leong Hou for the creation and maintenance of the conference website and the local organization work, and Juzhen Dong for the maintenance of the paper reviewing system. Our sincere thanks go to the WIC 2012 Chairs: Wei Zhao, Philip Chen, Yuan Yan Tang, Ning Zhong, and Jiming Liu, and the ISMIS 2012 Steering Committee members: Aijun An, Andrzej Skowron, Dominik Ślęzak, Donato Malerba, Floriana Esposito, Giovanni Semeraro, Henryk Rybinski, Jaime Carbonell, Jan Rauch, Lorenza Saitta, Maria Zemankova, Marzena Kryszkiewicz, Nick Cercone, Petr Berka, Stan Matwin, Tapio Elomaa, and Zbigniew W. Raś. Moreover, our thanks are due to Alfred Hofmann of Springer for his continuous support and to Anna Kramer for her work on the proceedings.

September 2012

Li Chen  
Alexander Felfernig  
Jiming Liu  
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