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# Intelligent Information and Database Systems

6th Asian Conference, ACIIDS 2014  
Bangkok, Thailand, April 7-9, 2014  
Proceedings, Part I



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# Preface

ACIIDS 2014 was the sixth event in the series of international scientific conferences for research and applications in the field of intelligent information and database systems. The aim of ACIIDS 2014 was to provide an internationally respected forum for scientific research in the technologies and applications of intelligent information and database systems. ACIIDS 2014 was co-organized by King Mongkut's Institute of Technology Ladkrabang (Thailand) and Wrocław University of Technology (Poland) in co-operation with the IEEE SMC Technical Committee on Computational Collective Intelligence, Hue University (Vietnam), University of Information Technology UIT-HCM (Vietnam), and Quang Binh University (Vietnam) and took place in Bangkok (Thailand) during April 7-9, 2014. The first two events, ACIIDS 2009 and ACIIDS 2010, took place in Dong Hoi City and Hue City in Vietnam, respectively. The third event, ACIIDS 2011, took place in Daegu (Korea), while the fourth event, ACIIDS 2012, took place in Kaohsiung (Taiwan). The fifth event, ACIIDS 2013, was held in Kuala Lumpur in Malaysia.

We received almost 300 papers from over 30 countries from around the world. Each paper was peer reviewed by at least two members of the international Program Committee and International Reviewer Board. Only 124 papers with the highest quality were selected for oral presentation and publication in the two volumes of ACIIDS 2014 proceedings.

The papers included in the proceedings cover the following topics: natural language and text processing, intelligent information retrieval, Semantic Web, social networks and recommendation systems, intelligent database systems, technologies for intelligent information systems, decision support systems, computer vision techniques, machine learning and data mining, multiple model approach to machine learning, computational intelligence, engineering knowledge and semantic systems, innovations in intelligent computation and applications, modelling and optimization techniques in information systems, database systems and industrial systems, innovation via collective intelligences and globalization in business management, intelligent supply chains as well as human motion: acquisition, processing, analysis, synthesis, and visualization for massive datasets.

Accepted and presented papers highlight the new trends and challenges of intelligent information and database systems. The presenters showed how new research could lead to new and innovative applications. We hope you will find these results useful and inspiring for your future research.

We would like to express our sincere thanks to the honorary chairs, Prof. Tawil Paungma (Former President of King Mongkut's Institute of Technology Ladkrabang, Thailand), Prof. Tadeusz Więckowski (Rector of Wrocław University of Technology, Poland), and Prof. Andrzej Kasprzak, Vice-Rector of Wrocław University of Technology, Poland, for their support.

Our special thanks go to the program chairs and the members of the international Program Committee for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference. We cordially thank the organizers and chairs of special sessions who essentially contributed to the success of the conference.

We would also like to express our thanks to the keynote speakers (Prof. Hoai An Le Thi, Prof. Klaus-Robert Müller, Prof. Leszek Rutkowski, Prof. Vilas Wuwongse) for their interesting and informative talks of world-class standard.

We cordially thank our main sponsors, King Mongkut's Institute of Technology Ladkrabang (Thailand), Wrocław University of Technology (Poland), IEEE SMC Technical Committee on Computational Collective Intelligence, Hue University (Vietnam), University of Information Technology UIT-HCM (Vietnam), and Quang Binh University (Vietnam). Our special thanks are also due to Springer for publishing the proceedings, and to the other sponsors for their kind support.

We wish to thank the members of the Organizing Committee for their very substantial work and the members of the local Organizing Committee for their excellent work.

We cordially thank all the authors for their valuable contributions and all the other participants of this conference. The conference would not have been possible without them.

Thanks are also due to many experts who contributed to making the event a success.

April 2014

Ngoc Thanh Nguyen  
Boonwat Attachoo  
Bogdan Trawiński  
Kulwadee Somboonviwat

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