

Lecture Notes in Artificial Intelligence

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Robert J. Howlett Lakhmi C. Jain (Eds.)

Knowledge-Based and Intelligent Information and Engineering Systems

14th International Conference, KES 2010
Cardiff, UK, September 8-10, 2010
Proceedings, Part I

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Preface

The 14th International Conference on Knowledge-Based and Intelligent Information and Engineering Systems was held during September 8–10, 2010 in Cardiff, UK. The conference was organized by the School of Engineering at Cardiff University, UK and KES International.

KES2010 provided an international scientific forum for the presentation of the results of high-quality research on a broad range of intelligent systems topics. The conference attracted over 360 submissions from 42 countries and 6 continents: Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Chile, China, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong ROC, Hungary, India, Iran, Ireland, Israel, Italy, Japan, Korea, Malaysia, Mexico, The Netherlands, New Zealand, Pakistan, Poland, Romania, Singapore, Slovenia, Spain, Sweden, Syria, Taiwan, Tunisia, Turkey, UK, USA and Vietnam.

The conference consisted of 6 keynote talks, 11 general tracks and 29 invited sessions and workshops, on the applications and theory of intelligent systems and related areas. The distinguished keynote speakers were Christopher Bishop, UK, Nikola Kasabov, New Zealand, Saeid Nahavandi, Australia, Tetsuo Sawaragi, Japan, Yuzuru Tanaka, Japan and Roger Whitaker, UK.

Over 240 oral and poster presentations provided excellent opportunities for the presentation of interesting new research results and discussion about them, leading to knowledge transfer and generation of new ideas.

Extended versions of selected papers were considered for publication in the *International Journal of Knowledge-Based and Intelligent Engineering Systems*, *Engineering Applications of Artificial Intelligence*, *Journal of Intelligent Manufacturing*, and *Neural Computing and Applications*.

We would like to acknowledge the contribution of the Track Chairs, Invited Sessions Chairs, all members of the Program Committee and external reviewers for coordinating and monitoring the review process. We are grateful to the editorial team of Springer led by Alfred Hofmann. Our sincere gratitude goes to all participants and the authors of the submitted papers.

September 2010

Rossitza Setchi
Ivan Jordanov
Robert J. Howlett
Lakhmi C. Jain

Organization

KES 2010 was hosted and organized by the School of Engineering at Cardiff University, UK and KES International. The conference was held at the Mercure Holland House Hotel, September 8–10, 2010.

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Skill Acquisition and Ubiquitous Human– Computer Interaction	Hirokazu Taki, Wakayama University, Japan Masato Soga, Wakayama University, Japan
Application of Knowledge Models in Healthcare	István Vassányi, University of Pannonia, Hungary György Surján, National Institute for Strategic Health Research, Hungary
Knowledge Environment for Supporting Creative Learning	Toyohide Watanabe, Nagoya University, Japan Tomoko Kojiri, Nagoya University, Japan
ICT in Innovation and Creativity	Toyohide Watanabe, Nagoya University, Japan Taketoshi Ushiyama, Kyushu University, Japan
Intelligent Support for Designing Social Information Infrastructure	Toyohide Watanabe, Nagoya University, Japan Naoto Mukai, Tokyo University of Science, Japan
Intelligent Systems in Ambient-Assisted Living Environments	Antonio F. Gómez-Skarmeta, Universidad de Murcia, Spain Juan A. Botía, Universidad de Murcia, Spain
Knowledge-Based Systems for e-Business	Kazuhiko Tsuda, University of Tsukuba, Japan Nobuo Suzuki, KDDI Corporation, Japan
Quality Assurance and Intelligent Web-Based Information Technology	Anastasia N. Kastania, Athens University of Econom- ics and Business, Greece Stelios Zimeras, University of the Aegean, Greece
Knowledge-Based Interface Systems	Yuji Iwahori, Chubu University, Japan Naohiro Ishii, Aichi Institute of Technology, Japan Yoshinori Adachi, Chubu University, Japan Nobuhiro Inuzuka, Nagoya Institute of Technology, Japan
Reasoning-Based Intelligent Systems	Kazumi Nakamatsu, University of Hyogo, Japan Jair Minoru Abe, University of Sao Paulo, Brazil
Data Mining and Service Science for Innovation	Katsutoshi Yada, Kansai University, Japan Takahira Yamaguchi, Keio University, Japan Maria Alessandra Torsello, University of Bari, Italy

Web 2.0: Opportunities and Challenges for Social Recommender Systems	Jose J. Pazos-Arias, University of Vigo, Spain Ana Fernandez-Vilas, University of Vigo, Spain
Innovations in Chance Discovery	Akinori Abe, University of Tokyo, Japan
Personalization of Web Contents and Services	In-Young Ko, Korea Advanced Institute of Science and Technology (KAIST), Korea Juan D. Velásquez, University of Chile, Chile
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Real-World Data Mining and Digital Intelligence	Takaya Yuizono, JAIST, Japan Rashid Mehmood, Swansea School of Engineering, UK Omer F. Rana, Cardiff University, UK
Advanced Design Techniques for Adaptive Systems	Ziad Salem, Aleppo University, Syria Sorin Hintea, Technical University of Cluj-Napoca, Romania Hernando Fernández-Canque, Glasgow Caledonian University, UK Gabriel Oltean, Technical University of Cluj-Napoca, Romania
Soft Computing Techniques and Their Intelligent Utilizations Toward Gaming, Robotics, Stock Markets etc.	Norio Baba, Osaka Kyoiku University, Japan
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