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Bruno Apolloni Robert J. Howlett  
Lakhmi Jain (Eds.)

# Knowledge-Based Intelligent Information and Engineering Systems: KES 2007 - WIRN 2007

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Proceedings, Part II

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# Preface

These three volumes are a collection of the contributions presented to the joint conferences of KES 2007, the 11<sup>th</sup> International Conference on Knowledge-Based and Intelligent Information and Engineering Systems, and the WIRN 2007, the 17<sup>th</sup> Italian Workshop on Neural Networks, held in Vietri sul Mare, Italy, in September 2007.

The formula by which KES conferences gather over 500 people each year from the four corners of the globe to discuss the topic of knowledge-based and intelligent information and engineering systems is: an open mind with rigor. Within the vast universe of the conferences centered around the keywords “information” and “computational intelligence,” we encourage in our meetings the offering of new ideas and techniques to give solutions to the never-ending series of problems and challenges that our own intelligence poses.

As a precious attribute of the human brain, we will never be disturbed by the novelty, and possibly the provocation, of new mental paradigms and hazardous conjectures, especially if they are raised by fresh research teams. At the same time, we have riddled each contribution using the sieve of scientific quality, checking the rigor with which the ideas are illustrated, their understandability and the support of the theory or of the experimental evidence.

The structure of the conference reflects this philosophy. In addition to regular tracks on the main fields of the discipline, we invited scientists to propose sessions focused on topics of high interest. Their response was generous and based on all sources, we received some 1203 submissions. From this number we collected 11 general track sessions and 47 invited sessions to make a total of 409 papers after a severe referee screening, an acceptance rate of 34%. Thus the reader may have from these volumes an almost exhaustive overview of researcher’s and practitioner’s current work in the field of information extraction and intelligent systems.

WIRN 2007 was the annual meeting of the Italian Society for Neural Networks (SIREN). Joining the two conferences provided the double benefit of giving the meeting a qualified and interested local committee on the one hand, and putting the local scientific community in touch with an international cluster of researchers in similar fields, on the other. The efficiency and effectiveness of the result suggest that it would be beneficial to replicate this formula in the future.

We wish to express our sincere thanks to many people who worked hard for the success of the conference, to the authors who sent their contributions, and to the whole scientific community who contributed to intelligence and knowledge values being preserved and enhanced for future generations.

September 2007

Bruno Apolloni  
Robert J. Howlett  
Lakhmi C. Jain

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KES 2007 was organized by KES International – Innovation in Knowledge-Based and Intelligent Engineering Systems. WIRN 2007 was organized by IIASS – Istituto Italiano Alti Studi Scientifici.

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- Hybrid Artificial Intelligence Systems Workshop (HAIS 2007-KES2007), *Juan M. Corchado (University of Salamanca, Spain)* *Emilio Corchado (University of Burgos, Spain)*
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- Knowledge-Based Interface Systems II, *Yoshinori Adachi (Chubu University, Japan)* *Nobuhiro Inuzuka (Nagoya Institute of Technology, Japan)*

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Multi-Agent Systems Design, Implementation and Applications, *Dharmendra Sharma, Bala M. Balachandran (University of Canberra, Australia)*

Multimedia Systems and Their Applications Focusing on Reliable and Flexible Delivery for Integrated Multimedia (Media 2007), *Yun Ji Na (Convergence Information Technology Research Center, Korea) Il Seok Ko (Dongguk University, Korea)*

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Stephanie Forrest, University of New Mexico, USA: *Self-Healing Systems and Autonomic Network Security*

Walter J. Freeman, University of California, Berkeley, USA: *Thermodynamic Model of Knowledge Retrieval in Brain Dynamics for Information Processing*

Mario Gerla, University of California, Los Angeles, USA: *Probing and Mining the Urban Environment Using the Vehicular Sensor Network*

Hans-Andrea Loeliger, ETH, Zurich, Switzerland: *The Factor Graph Approach to Model-Based Signal Processing*

Yoshiteru Ishida, Toyohashi University, Japan: *The Immune System Offered a Glimpse: What Makes Biological Systems Distinct from Artificial Ones*

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