

Preface

Hybridization of intelligent systems is a promising research field of modern artificial/computational intelligence concerned with the development of the next generation of intelligent systems. A fundamental stimulus to the investigations of Hybrid Intelligent Systems (HIS) is the awareness in the academic communities that combined approaches will be necessary if the remaining tough problems in artificial/computational intelligence are to be solved. Recently, hybrid intelligent systems are getting popular due to their capabilities in handling several real world complexities involving imprecision, uncertainty and vagueness. Current research interests in this field focus on integration of the different soft computing paradigms like fuzzy logic, neurocomputation, evolutionary computation, probabilistic computing and their interactions with hard computing techniques, intelligent agents, machine learning, other intelligent computing frameworks and so on. The phenomenal growth of hybrid intelligent systems and related topics has created the need for this International conference as a venue to present the latest research. HIS'02 builds on the success of last year's. HIS'01 was held in Adelaide, Australia, 11-12, December 2001 and attracted participants from over 26 countries.

HIS'02, the Second International Conference on Hybrid Intelligent Systems, took place in Santiago de Chile, December 01-04, 2002, addressing the following four important themes:

- Hybrid soft computing
- Soft computing for pattern recognition and signal processing
- Soft computing for multimedia and Internet modeling
- Intelligent data mining

HIS'02 was hosted by the Faculty of Physical and Mathematical Sciences at the Universidad de Chile. HIS'02 is technically co-sponsored by The World Federation on Soft Computing, ENNS (European Neural Network Society), EUSFLAT (European Society for Fuzzy Logic and Technology), EVONET (European Network of Excellence in Evolutionary Computing), IEEE Region 9 and IOS Press. HIS'02 program committee represented 21 countries on 5 continents and authors submitted 132 papers from 38 countries on 5 continents. This certainly attests to the wide-spread, international importance of the theme of the conference. Each paper was peer reviewed by at least two independent referees of the program committee and based on the recommendation of the reviewers 84 papers were finally accepted. HIS'02 also received 9 technical sessions and 10 tutorial proposals addressing different aspects of intelligent systems and applications.

HIS'02 was blessed to have the following plenary speakers:

1. Yasuhiko Dote, '*Neuro-fuzzy control*'
2. Janusz Kacprzyk, '*Protoforms of linguistic data summaries: towards more general natural-language-based data mining tools*'
3. Erkki Oja, '*Independent component analysis*'
4. Juan Carlos Letelier, '*Anticipatory computing with autopoietic and (M,R)-Systems*'
5. Bernard De Baets, '*Fuzzy set theory: a playground for mathematicians*'
6. Oussama Khatib, '*Robots for the human and haptic interaction*'
7. William Langdon, '*A hybrid genetic programming neural network classifier for use in drug discovery*'
8. Andrew Sung, '*Role of soft computing in internet security*'

We would like to express our sincere gratitude to all the authors and members of the program and local organizing committees that has made this conference a success. We are also grateful to The Center for Web Research, Chile and Aglaia GmbH, Germany for generously sponsoring the travel grant funds. Our special thanks also to the plenary speakers and tutorial presenters for their effort in preparing the lectures. We are also indebted to Lakhmi Jain (Editor of Knowledge-Based Intelligent Engineering Systems Series, IOS Press, Netherlands) for the timely advices related to this volume.

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September 2002 Ajith Abraham, Mario Köppen and Javier Ruiz-del-Solar (Editors)

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