Preface

All the chapters in this volume are invited contributions following a successful international workshop, namely, The First WICI International Workshop on Web Intelligence meets Brain Informatics (WImBI 2006) held in Beijing, China, December 15–16, 2006. The WICI (International WIC Institute, www.iwici.org/) is an international open educational research organization of the Web Intelligence Consortium (WIC, www.wi-consortium.org/). The institute is affiliated with Beijing University of Technology (BJUT).

The workshop explores a new perspective of Web Intelligence (WI) research from the viewpoint of Brain Informatics (BI). BI is a new interdisciplinary field studying human information processing mechanisms from both macro and micro points of view by cooperatively using experimental cognitive neuroscience and advanced WI-centric information technology. The new instrumentation (fMRI etc.) and advanced information technology are causing an impending revolution in Web Intelligence and brain sciences. This revolution is bi-directional: a new understanding and discovery of human intelligence models in brain sciences will yield a new generation of WI research and development; and WI-based technologies will provide a new powerful platform for brain sciences. The synergy between WI with BI will yield profound advances in our analysis and understanding of the natures of data, knowledge, intelligence, and wisdom, as well as their relationship, organization, and creation process. Fundamentals and implementational issues of WI will be studied as a central topic and in a unique way. It will fundamentally change the nature of information technology in general and artificial intelligence in particular, leading towards human-level WI.

In summary, the main features of the WImBI 2006 workshop and the book include:

- This workshop was the first in the field to focus on the interplay between (a) intelligent technologies, especially in the context of WI and (b) studies on human intelligence as explored in neuroscience, cognitive psychology, and brain science instrumentation.
- The participants of this workshop were by invitation only. All the invited attendees are presently world leaders in their respective areas, and can be expected to build a strong synergy and momentum for the “WI meets BI” research in the near future.
- The book, as a volume in the Springer LNCS/LNAI state-of-the-art survey, will be a milestone publication, with research visions and blueprints, for computer scientists and practitioners at large in this exciting interdisciplinary area. All the post-workshop, full-length papers were carefully reviewed and selected for inclusion.

WImBI 2006 had a very exciting program (www.wi-consortium.org/) with a number of features, ranging from technical sessions, keynote/invited talks,
demos/posters, and social programs. Many thanks go to the distinguished keynote speakers, Tomaso Poggio of MIT and Deyi Li of NSFC. We wish to express our gratitude to all members of the Workshop Organizing Committee and the International Advisory Board for their instrumental and unfailing support.

WImBI 2006 could not have taken place without the great team effort of the Local Organizing Committee and the support of Beijing University of Technology. Our special thanks go to Boyuan Fan and Zhenyang Lu (Organizing Chairs), Chunnian Liu, Baocai Yin, and Xunming Ji (Organizing Vice-Chairs) for their enormous efforts in planning and arranging the logistics of the workshop from registration/payment handling, venue preparation, accommodation booking, to banquet/social program organization. We would like to thank Shuai Huang, Jiajin Huang, Jia Hu, and Juzhen Dong, of the conference support team at the International WIC Institute (WICI), the Knowledge Information Systems Laboratory, Maebashi Institute of Technology, and Web Intelligence Laboratory, Inc. for their dedication and hard work.

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September 2007

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