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Advances in Neural Networks – ISNN 2010

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Preface

This book and its sister volume collect refereed papers presented at the 7th International Symposium on Neural Networks (ISNN 2010), held in Shanghai, China, June 6-9, 2010. Building on the success of the previous six successive ISNN symposiums, ISNN has become a well-established series of popular and high-quality conferences on neural computation and its applications. ISNN aims at providing a platform for scientists, researchers, engineers, as well as students to gather together to present and discuss the latest progresses in neural networks, and applications in diverse areas. Nowadays, the field of neural networks has been fostered far beyond the traditional artificial neural networks.

This year, ISNN 2010 received 591 submissions from more than 40 countries and regions. Based on rigorous reviews, 170 papers were selected for publication in the proceedings. The papers collected in the proceedings cover a broad spectrum of fields, ranging from neurophysiological experiments, neural modeling to extensions and applications of neural networks. We have organized the papers into two volumes based on their topics. The first volume, entitled "Advances in Neural Networks-ISNN 2010, Part 1," covers the following topics: neurophysiological foundation, theory and models, learning and inference, neurodynamics. The second volume entitled "Advance in Neural Networks ISNN 2010, Part 2" covers the following five topics: SVM and kernel methods, vision and image, data mining and text analysis, BCI and brain imaging, and applications.

In addition to the contributed papers, four distinguished scholars (Andrzej Cichocki, Chin-Teng Lin, DeLiang Wang, Gary G. Yen) were invited to give plenary talks, providing us with the recent hot topics, latest developments and novel applications of neural networks.

ISNN 2010 was organized by Shanghai Jiao Tong University, Shanghai, China, The Chinese University of Hong Kong, China and Sponsorship was obtained from Shanghai Jiao Tong University and The Chinese University of Hong Kong. The symposium was also co-sponsored by the National Natural Science Foundation of China. We would like to acknowledge technical supports from the IEEE Shanghai Section, International Neural Network Society, IEEE Computational Intelligence Society, Asia Pacific Neural Network Assembly, International Association for Mathematics and Computers in Simulation, and European Neural Network Society.

We would like to express our sincere gratitude to the members of the Advisory Committee, Organizing Committee and Program Committee, in particular to Jun Wang and Zhigang Zeng, to the reviewers and the organizers of special sessions for their contributions during the preparation of this conference. We would like to also acknowledge the invited speakers for their valuable plenary talks in the conference.

Acknowledgement is also given to Springer for the continuous support and fruitful collaboration from the first ISNN to this seventh one.

March 2010

Liqing Zhang
James Kwok
Bao-Liang Lu

ISNN 2010 Organization

ISNN 2010 was organized and sponsored by Shanghai Jiao Tong University, The Chinese University of Hong Kong, and it was technically cosponsored by the IEEE Shanghai Section, International Neural Network Society, IEEE Computational Intelligence Society, Asia Pacific Neural Network Assembly, International Association for Mathematics and Computers in Simulation, and European Neural Network Society. It was financially supported by the National Natural Science Foundation of China.

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