Lecture Notes in Computer Science 4492

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Derong Liu Shumin Fei
Zengguang Hou Huaguang Zhang
Changyin Sun (Eds.)

Advances in Neural Networks – ISNN 2007

4th International Symposium
on Neural Networks, ISNN 2007
Nanjing, China, June 3-7, 2007
Proceedings, Part II

Springer

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Library of Congress Control Number: 2007926816

CR Subject Classification (1998): F.1, F.2, D.1, G.2, I.2, C.2, I.4-5, J.1-4

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

ISSN 0302-9743
ISBN-10 3-540-72392-7 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-72392-9 Springer Berlin Heidelberg New York

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12060771 06/3180 5 4 3 2 1 0

Preface

ISNN 2007 – the Fourth International Symposium on Neural Networks—was held in Nanjing, China, as a sequel of ISNN 2004/ISNN 2005/ISNN 2006. ISNN has now become a well-established conference series on neural networks in the region and around the world, with growing popularity and increasing quality. Nanjing is an old capital of China, a modern metropolis with a 2470-year history and rich cultural heritage. All participants of ISNN 2007 had a technically rewarding experience as well as memorable experiences in this great city.

A neural network is an information processing structure inspired by biological nervous systems, such as the brain. It consists of a large number of highly interconnected processing elements, called neurons. It has the capability of learning from example. The field of neural networks has evolved rapidly in recent years. It has become a fusion of a number of research areas in engineering, computer science, mathematics, artificial intelligence, operations research, systems theory, biology, and neuroscience. Neural networks have been widely applied for control, optimization, pattern recognition, image processing, signal processing, etc.

ISNN 2007 aimed to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of neural network research and applications in diverse fields. The symposium featured plenary lectures given by worldwide renowned scholars, regular sessions with broad coverage, and some special sessions focusing on popular topics.

The symposium received a total of 1975 submissions from 55 countries and regions across all six continents. The symposium proceedings consists of 454 papers among which 262 were accepted as long papers and 192 were accepted as short papers. We would like to express our sincere gratitude to all reviewers of ISNN 2007 for the time and effort they generously gave to the symposium. We are very grateful to the National Natural Science Foundation of China, K. C. Wong Education Foundation of Hong Kong, the Southeast University of China, the Chinese University of Hong Kong, and the University of Illinois at Chicago for their financial support. We would also like to thank the publisher, Springer, for cooperation in publishing the proceedings in the prestigious series of *Lecture Notes in Computer Science*.

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