Daniel S. Yeung
Zhi-Qiang Liu
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Advances in Machine Learning and Cybernetics

LNAI 3930

4th International Conference, ICMLC 2005
Guangzhou, China, August 2005
Revised Selected Papers

Springer

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Preface

Machine learning and cybernetics play an important role in many modern electronic, computer and communications systems. Automated processing of information by these systems requires intelligent analysis of various types of data and optimal decision making. In recent years, we have witnessed a rapid expansion of research and development activities in machine learning and cybernetics. To provide opportunities for researchers in these areas to share their ideas and foster collaborations, the International Conference on Machines and Cybernetics (ICMLC) has been held annually since 2002. The conference series has achieved a great success in attracting a large number of paper submissions and participants and enabling fruitful exchanges among academic and industrial researchers and postgraduate students.

In 2005, the conference (ICMLC 2005) received 2461 full paper submissions and the Program Committee selected 1050 of them for presentation. It is especially encouraging that the conference is attracting more and more international attention. This year, there are contributions from 21 countries and 211 universities worldwide. Out of the 1050 papers presented at the conference, we selected 114 papers to be published in this volume of *Lecture Notes in Computer Science*.

The papers in this volume are divided into nine broad areas:

- Agents and distributed artificial intelligence
- Control
- Data mining and knowledge discovery
- Fuzzy information processing
- Learning and reasoning, machine learning applications
- Neural networks and statistical learning methods
- Pattern recognition
- Vision and image processing

In addition to new theoretical research results, such as on stability analysis of nonlinear control systems and innovative learning algorithms, the papers report a wide range of useful applications to biomedical engineering, commerce, database management, electronics, network security, transportation, etc.

We are grateful for the sponsorship of the conference from the IEEE Systems, Man and Cybernetics Society, Hong Kong Polytechnic University, Hebei University, South China University of Technology, Chongqing University, Sun Yat-sen University, the Harbin Institute of Technology and the International University in Germany. We would like to thank members of the ICMLC 2005 Advisory, Organizing and Program Committees for their hard work. We appreciate the help from Mrs. Inge Rogers, who arranged proofreading of the papers in this volume, and staff and students in our research groups, who provided a lot of assistance for the conference organization.

December 2005

YEUNG, Daniel
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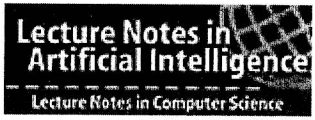

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