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Preface

This LNCS/LNAI volume contains papers presented at the 5th Multi-Disciplinary International Workshop on Artificial Intelligence, MIWAI-2011 (http://khamreang.msu.ac.th/miwai11/) held during December 7–9, 2011, at the University of Hyderabad, India. The earlier four versions of MIWAI (known as Mahasarakham International Workshop on Artificial Intelligence (http://khamreang.msu.ac.th/miwai10/)) were organized at the Faculty of Informatics, Mahasarakham University, Thailand. It was decided that MIWAI ought to reach out beyond Thailand to mutually benefit contributions from the Asia-Pacific Region and the rest of the world.

This workshop aimed to be a meeting place where excellence in AI research meets the needs for solving dynamic and complex problems in the real world. The academic researchers, developers, and industrial practitioners had extensive opportunities to present their original work, technological advances and practical problems. Participants were able to learn from each other and exchange their experiences in order to finetune their activities and provide help to each other. The main purposes of the MIWAI series of workshops are as follows:

- To provide a meeting place for AI researchers and practitioners to meet in a friendly and non-competitive atmosphere
- To inform research participants about cutting-edge AI research via the presence of outstanding international invited speakers
- To raise the standards of practice of AI research by providing participants with feedback from an internationally renowned Program Committee

MIWAI-2011 received around 71 full papers from 14 different countries spreading across 4 continents. The review process involved 163 reviews by as many as 77 reviewers, and was carried out with no specific target to what the number of accepted papers was to be. In the end, 38 papers were accepted as full-length papers for publication and oral presentation. We accepted only full length papers to enable detailed and fruitful discussions on these papers during the presentation. The acceptance rate was around 50%. Although this may seem high, judging by the quality of submissions this is justified. Some of the rejected papers indeed had potential, but were finally excluded in order to maintain the quality of the workshop. The accepted papers which are included in this volume cover the multifarious nature of the artificial intelligence research domain, ranging from theoretical to real-world applications.

The thrust areas of this workshop were agent-based simulation, agent-oriented software engineering, agents and Web services, agent-based electronic commerce, auctions and markets, AI in video games, computer vision, constraint satisfaction, data mining, decision theory, distributed AI, e-commerce and AI, game theory, Internet/WWW intelligence, industrial applications of AI, intelligent tutoring, knowledge representation and reasoning, machine learning, multi-agent

planning and learning, multi-agent systems and their applications, multi-agent systems and evolving intelligence, natural language processing, neural networks, planning and scheduling, robotics, uncertainty in AI, and Web services

The workshop featured a keynote talk by B. Chandrasekaran, Professor Emeritus, Laboratory for Artificial Intelligence Research, Ohio State University, which focused on diagrammatic reasoning and imagination. The various invited talks by James F. Peters, from the Computational Intelligence Laboratory, University of Manitoba, Canada, Sheela Ramanna, Professor and Chair, Department of Applied Computer Science, University of Winnipeg, Canada, Ronald R. Yager, Director, Machine Intelligence, Iona College, USA, and Manish Gupta, Department of IBM Research, India enhanced the significance and contributions of MIWAI even more.

MIWAI-2011 also included two tutorials for the benefit of students and researchers. B. Yegnanarayana, Professor and Microsoft Chair, Speech and Vision Laboratory, IIIT Hyderabad, India, gave a tutorial on 'Introduction to Neural Networks' and Prof. M. N. Murty Dept. of CSA, IISc, Bangalore, India gave a tutorial on 'Knowledge-Based Information Retrieval'.

We gratefully acknowledge our sponsors IBM India, Locuz Enterprise Solutions Ltd, IDRBT and Winzest without whose support this workshop would have been impossible to organize. Their support was used to (a) plan and organize the meeting (b) ensure the participation of keynote and invited speakers, (c) facilitate student participation (by reducing their accommodation costs and, for some, travel costs), (d) publish this proceedings book, and (e) institute a best paper award.

We are grateful for the support of the Local Organizing Team and the army of volunteers to run the events in a coordinated way. We also wish to acknowledge our sincere appreciation for all the support extended by University of Hyderabad administration and staff members. The workshop website was developed, hosted and supported by Mahasarakham University and we record our appreciation for the developer team.

Last but not least, we wish to take this opportunity to thank all the authors of submitted papers for their interest in AI research and MIWAI 2011, adherence to the deadlines and patience with the review process. The quality of any refereed volume depends on the expertise and dedication of the reviewers. We are indebted to the Program Committee members and the external reviewers who not only produced excellent reviews but also completed it within the short time-frame.

Finally, all efforts and hard work would be rewarding and worthwhile if the readers find the papers in these proceedings inspiring and academically fruitful. The editorial board sincerely hopes that the previous statement is true.

December 2011

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