

Preface

The focus of the Asian Applied Computing Conference (AACC) is primarily to bring the research in computer science closer to practical applications. The conference is aimed primarily at topics that have immediate practical benefits. By hosting the conference in the developing nations in Asia we aim to provide a forum for engaging both the academic and the commercial sectors in that region. The first conference “Information Technology Prospects and Challenges” was held in May 2003 in Kathmandu, Nepal. This year the conference name was changed to “Asian Applied Computing Conference” to reflect both the regional- and the application-oriented nature of the conference.

AACC is planned to be a themed conference with a primary focus on a small set of topics although other relevant applied topics will be considered. The theme in AACC 2004 was on the following topics: *systems and architectures, mobile and ubiquitous computing, soft computing, man machine interfaces, and innovative applications for the developing world.*

AACC 2004 attracted 184 paper submissions from around the world, making the reviewing and the selection process tough and time consuming. The selected papers covered a wide range of topics: genetic algorithms and soft computing; scheduling, optimization and constraint solving; neural networks and support vector machines; natural language processing and information retrieval; speech and signal processing; networks and mobile computing; parallel, grid and high-performance computing; innovative applications for the developing world; cryptography and security; and machine learning. Papers were primarily judged on originality, presentation, relevance and quality of work. Papers that had clearly demonstrated results were given preference.

AACC 2004 not only consisted of the technical program covered in this proceedings but also included a workshop program, a tutorial program, and demo sessions. Special thanks are due to the general chair, Lalit Patnaik for the overall organization of the conference both in 2003 and 2004. Thanks are due to the tutorial chair Rajeev Kumar for looking after the tutorial program. The conference would not have been possible without the local organization efforts of Deepak Bhattarai and Sudan Jha. Thanks are due to Thimal Jayasooriya for help with the proofreading.

We would like to thank the program committee members for their efforts, and our reviewers for completing a big reviewing task in a short amount of time. Finally, we would like to thank all the authors who submitted papers to AACC 2004 and made possible a high-quality technical programme.

August, 2004

Suresh Manandhar
Jim Austin
Uday Desai
Asoke Talukder
Yoshio Oyanagi

Committee Chairs

General Chair	Lalit Patnaik (IISc, India)
Program Chair	Suresh Manandhar (University of York, UK)
Area Chairs	
Soft Computing	Jim Austin (University of York, UK)
Innovative Applications for the Developing World	Uday Desai (IIT, Bombay)
Man Machine Interfaces	Suresh Manandhar (University of York, UK)
Systems and Architectures	Yoshio Oyanagi (University of Tokyo)
Mobile and Ubiquitous Computing	Asoke Talukder (IIIT, Bangalore)
Local Organization	Sudan Jha (Nepal Engineering College)
Tutorials	Rajeev Kumar (IIT Kharagpur, India)
Publicity	
Southeast Asia	Prabhas Chongstitvatana (Chulalongkorn University, Thailand)
Europe & USA	Keshav Dahal (University of Bradford, UK)
Pacific	Andrew Simmonds (UTS, Sydney, Australia)
South Asia	Prabal Basu Roy (Lucent Technologies, India)

Local Organization

AACC 2004 was organized by the Nepal Engineering College, Kathmandu, Nepal.

Sponsoring Institutions

Ministry of Science and Technology, Nepal
WorldLink Communications, Nepal
Kathmandu Engineering College
Nepal College of Information Technology
IEEE Computer Society, India Council Chapter

Program Committee

Jay Bagga	Ball State University, USA
Michael Best	MIT Media Labs, USA
Shekhar Borgaonkar	HP Labs, India
Yiuming Cheung	Hong Kong Baptist University
Debabrata Das	IIIT Bangalore, India
Alistair Edwards	University of York, UK
Gita Gopal	HP Labs, USA
Hans-Gerhard Gross	Fraunhofer Institute, Germany
Puneet Gupta	Infosys Technologies, India
Frank van Harmelen	Vrije Universiteit, The Netherlands
Aynal Haque	BUET, Bangladesh
Visakan Kadirkamanathan	University of Sheffield, UK
Nik Kasabov	Auckland University of Technology, New Zealand
M.H. Kori	Bell Labs, India
Jinwen Ma	Peking University, China
Susil Meher	AIIMS, India
Arun Mehta	Consultant on ICT for Development, India
J.C. Mishra	IIT Kharagpur, India
Priyadarshi Nanda	University of Technology, Sydney, Australia
Mahesan Niranjan	University of Sheffield, UK
Paddy Nixon	University of Strathclyde, UK
Bhaskar Ramamurthy	IIT Madras, India
Partha Sarathi Roop	University of Auckland, New Zealand
Peter Thomas	University College London, UK
Jon Timmis	University of Kent, UK
Stefan Wermter	University of Sunderland, UK
Hujun Yin	UMIST, UK

Referees

R. Arvind	Arvind Keerthi	A.N. Rajagopalan
Chris Bailey	Chris Kimble	K. Rajan
Alan Black	Daniel Kudenko	Sumantra Dutta Roy
John Clark	Sunil Kumar	Pradip K. Sinha
Keshav Dahal	Bojian Liang	Bhabani Prasad Sinha
Andy Evans	Serge Massicotte	Purnendu Sinha
V.M. Gadre	S.N. Merchant	Nick Walton
Tom Hesseltine	Ian Miguel	Michael Weeks
Vicky Hodge	Simon O'Keefe	Richard Wilson
Thimal Jayasooriya	Nick Pears	Peter Young

Applied Computing

Second Asian Applied Computing Conference, AACC

2004, Kathmandu, Nepal, October 29-31, 2004.

Proceedings

Manandhar, S.; Austin, J.; Desai, U.; Oyanagi, Y.;

Talukder, A. (Eds.)

2004, XII, 340 p., Softcover

ISBN: 978-3-540-23659-7