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Artificial Intelligence (SCAI 2006)**

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Timo Honkela, Tapani Raiko, Jukka Kortela, and Harri Valpola (eds.)

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## Foreword

The first SCAI was started in 1988 in Tromsø, Norway. It has since then been held in Nordic countries. Although its primary function is to bring together researchers from the Nordic countries, it has constantly attracted a rather international participation.

There have been strong connections between Nordic countries for long time in the history. In the modern times, those connections have provided the citizens, companies and researchers many kinds of opportunities. As one practical example, one can mention the Nordic Passport Union, created already in 1954, well before Schengen agreement. It allowed citizens of Denmark, Finland, Iceland, Norway and Sweden to cross border districts without carrying and having their passport checked. Moreover, technological developments have been boosted by the possibility of bringing new products to this highly developed area. A primary example is the the Nordic Mobile Telephony (NMT), the world's very first multinational cellular network in 1981. The NMT was later on introduced in other countries, making ground for the GSM that became a widely adopted international standard. In the area of information technologies, many innovations and successful concepts and products stem from the Nordic countries including Linux, MySQL, IRC and Skype. Alongside with these Finnish and Swedish examples, one can mention that for the past two years Denmark has ranked first on the Economist Intelligence Unit's e-readiness list that indicate how amenable a market is to Internet-based opportunities. Moreover, Norway has played since 1990 a pioneering role in applying telemedicine in healthcare services. These kind of examples related to the IT area in general are an important basis for successful research and education in the area of artificial intelligence. As the representatives of the Finnish hosts, we are pleased to mention two excellent local examples. Professor Tuomas Sandholm, an alumni of Helsinki University of Technology, was the 2003 recipient of the Computers and Thought Award, given every two years by the International Joint Conference on Artificial Intelligence (IJCAI) to an outstanding young scientist. The award is considered to be the premier prize for AI researchers under the age of 35. Academician Teuvo Kohonen has been highly successful for decades in an area that was for quite some time neglected in the AI community but has later approved to be very useful in many tasks and applications. Many of his innovations are central components in areas such as pattern recognition, data mining, robotics, knowledge representation and statistical machine learning. This year, we are pleased to be able to welcome Teuvo Kohonen to open SCAI 2006 as the honorary chair of the conference.

We are grateful to all the active researchers who have submitted their contribution to the conference. The conference programme is divided into six thematic sessions named "Analyzing Interdisciplinarity", "Genetic Algorithms and Computer Vision", "Elastic Systems", "Machine Learning", "Robotics and Agents", and "Digital Games". We thank all the session chairs who have kindly agreed to provide an introduction to each of the thematic areas. Parallel to the SCAI 2006 conference, the Finnish AI Conference (STeP 2006) is organized with two main themes, "Semantic Web at Work", and "Artificial Intelligence". Professor Eero Hyvönen's efforts to ensure the success of the STeP 2006 conference we acknowledge gratefully.

We are also grateful to Professor Tom Ziemke (Skövde) and Nokia Research Fellow Ora Lassila (Cambridge) who kindly accepted the invitation to give a keynote talk in

the conference. The talks are based on their outstanding research. Ora Lassila is an acknowledged expert in the area of Semantic Web, the core ideas of which were described in a Scientific American article he coauthored with Tim Berners-Lee and James Hendler in 2001. Tom Ziemke's successful research covers several important and interrelated topics such as cognitive, evolutionary and adaptive robotics, and embodied, enactive and distributed cognition.

We wish to warmly thank the international programme committee whose active role has been instrumental for the success of the conference. The programme committee members both helped in specifying the conference themes and, in particular, ensured a timely and thorough evaluation of the papers. We express our gratefulness to all the members of the organizing committee for their efforts.

We are grateful to the organizations and companies involved: Finnish Artificial Intelligence Society, Helsinki University of Technology, city of Espoo, Intopii, Nokia, and European Coordinating Committee for Artificial Intelligence.

We wish that the SCAI 2006 conference will be remembered as a useful scientific event and as a memorable gathering in which old friends met and new friends were made.

Espoo, 29th of September, 2006

Timo Honkela, Tapani Raiko, Jukka Kortela, and Harri Valpola

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Jussi Timonen

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