

# Lecture Notes in Artificial Intelligence 7258

## Subseries of Lecture Notes in Computer Science

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# New Frontiers in Artificial Intelligence

JSAI-isAI 2011 Workshops  
LENLS, JURISIN, ALSIP, MiMI  
Takamatsu, Japan, December 1-2, 2011  
Revised Selected Papers

 Springer

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# Preface

JSAI (The Japanese Society for Artificial Intelligence) is a premier academic society that focuses on artificial intelligence in Japan and was established in 1986. JSAI publishes journals and bimonthly transactions, and hosts 18 special interest groups. The JSAI annual conference attracts about 700 attendees each year. JSAI-isAI (JSAI International Symposia on Artificial Intelligence) 2011 was the Third International Symposium, which hosted four co-located international workshops that had been selected by the JSAI-isAI 2011 Organizing Committee. This was in succession to the international workshops co-located with the JSAI annual conferences since 2001. JSAI-isAI 2011 was successfully held during December 1–2 in Takamatsu, Japan; 110 people from 14 countries participated in JSAI-isAI 2011. This volume of “New Frontiers in Artificial Intelligence: JSAI-isAI 2011 Workshops” is the proceedings of JSAI-isAI 2011. The organizers of the four workshops, LENLS, JURISIN, ALSIP, and MiMI, hosted by JSAI-isAI 2011, selected 21 papers in total. The acceptance rate was about 48%. This has resulted in the excellent selection of papers that are representative of some of the topics of AI research both in Japan and in other parts of the world. LENLS (Logic and Engineering of Natural Language Semantics) is an annual international workshop on formal semantics and pragmatics. LENLS hosted by JSAI-isAI 2011 was the eighth event in the series. LENLS focuses on the formal and theoretical aspects of natural language, which demonstrates one of the strengths of Japanese AI studies. The Workshop Chair was Alastair Butler (Japan Science and Technology Agency, PRESTO). JURISIN (Juris-Informatics) was the fifth event focusing on juris-informatics among people from various backgrounds such as law, social science, information and intelligent technology, logic and philosophy, including the conventional “AI and law” area. The Workshop Chairs were Shozo Ota (University of Tokyo) and Ken Satoh (National Institute of Informatics). ALSIP (Algorithms for Large-Scale Information Processing in Knowledge Discovery) was the second event focusing on large-scale data processing in problems such as data mining, clustering, machine learning, statistical analysis, and other computational aspects of knowledge discovery problems. The Workshop Chairs were Koji Tsuda (National Institute of Advanced Industrial Science and Technology) and Shin-ichi Minato (Hokkaido University). MiMI (Multimodality in Multispace Interaction) was held for the first time. In this workshop, how multispace is managed in socially, temporally, and sequentially complex environments was discussed. The Workshop Chairs were Mayumi Bono

(National Institute of Informatics) and Nobuhiro Furuyama (National Institute of Informatics). It is our great pleasure to be able to share parts of the outcome of these fascinating workshops through this volume. We hope the readers of this book find a way to grasp the state-of-the art research outcomes of JSAI-isAI 2011, and may be motivated to participate in future JSAI-isAI events.

April 2012

Manabu Okumura  
Daisuke Bekki  
Ken Satoh

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