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# New Frontiers in Artificial Intelligence

JSAI-isAI 2010 Workshops  
LENLS, JURISIN, AMBN, ISS  
Tokyo, Japan, November 18-19, 2010  
Revised Selected Papers

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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 of the JSAI and bimonthly transactions, and hosts 19 special interest groups. The JSAI annual conference attracts several hundred attendees each year. JSAI-isAI (JSAI International Symposia on Artificial Intelligence) 2010 was the Second International Symposium, which hosted four co-located international workshops that were selected by the JSAI-isAI 2010 Organizing Committee. This was in succession to the international workshops co-located with the JSAI annual conferences since 2001. JSAI-isAI 2010 was successfully held during November 18–19 in Tokyo, Japan; 169 people from 15 countries participated in JSAI-isAI 2010. This volume of *New Frontiers in Artificial Intelligence: JSAI-isAI 2010 Workshops* is the proceedings of JSAI-isAI 2010. The organizers of the four workshops, LENLS, JURISIN, AMBN, and ISS, hosted by JSAI-isAI 2010, selected 28 papers. The acceptance rate was about 40%. This 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 2010 was the seventh 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 Eric McCreedy (Aoyama Gakuin University). JURISIN (Juris-Informatics) was the fourth 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 Chair was Satoshi Tojo (Japan Advanced Institute of Science and Technology). AMBN (Advanced Methodologies for Bayesian networks) was held for the first time. In this workshop, methodologies for enhancing the effectiveness of Bayesian networks (BNs) including modeling, reasoning, model selection, logic-probability relations, and causality are explored. The exploration of methodologies is complemented by discussions of practical considerations for applying BNs in real-world settings, covering concerns like scalability, incremental learning, parallelization, and so on. The Workshop Chairs were Maomi Ueno (The University of Electro-Communications) and Takashi Isozaki (Sony CSL, Inc.). ISS (Innovating Service Systems) is a workshop of service science. This workshop is motivated by the systems-design dimension of service science and it shares and discusses a progressive vision to develop methods for innovating systems of service resources where novel values are created and supplied sustainably. The Workshop Chairs

were Yukio Ohsawa (The University of Tokyo) and Katsutoshi Yada (Kansai University). It is our great pleasure that we were able to share some part 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 2010, and may be motivated to participate in future JSAI-isAI events.

April 2011

Takashi Onoda  
Eric McCready  
Daisuke Bekki

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