

Lecture Notes in Artificial Intelligence

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Subseries of Lecture Notes in Computer Science

Kumiyo Nakakoji Yohei Murakami  
Eric McCready (Eds.)

# New Frontiers in Artificial Intelligence

JSAI-isAI 2009 Workshops  
LENLS, JURISIN, KCSD, LLLL  
Tokyo, Japan, November 19-20, 2009  
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) 2009 was the First International Symposium, which hosted three co-located international workshops and one satellite workshop that had been selected by the JSAI-isAI 2009 Organizing Committee. This is in succession to the international workshops co-located with the JSAI annual conferences since 2001. JSAI-isAI 2009 was successfully held during November 19–20 in Tokyo, Japan; 158 people from 16 countries participated in JSAI-isAI 2009.

This volume of “New Frontiers in Artificial Intelligence: JSAI-isAI 2009 Workshops” is the proceedings of JSAI-isAI 2009. The organizers of the four workshops, LENLS, JURISIN, KCSD, and LLLL, hosted by JSAI-isAI 2009, selected 24 papers out of 61 presentations. 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 2009 was the sixth 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. JURISIN (Juris-Informatics) was the third event, focusing on law and AI, and broader areas of legal issues from the perspective of information science. One of the interesting aspects of JURISIN is its inter-disciplinary nature, involving people from a wide variety of backgrounds, such as computer science, social science, philosophy, and law. KCSD (Knowledge Collaboration in Software Development) had already been held twice and this was the third event in the series. The workshop focuses on the collaborative nature of software developers and explores the application of AI to support such collaboration. The recent trend of open-source software development encourages researchers to look into open-source software developmental data and apply data-mining techniques and develop collaborative tools to support software development as knowledge activities. LLLL (Learning with Logics and Logics for Learning) was the sixth event in the series. The workshop focuses both on the application of logic to represent data and rules for machine learning and knowledge discovery, and on the development of procedural semantics to algebraic and local inference based on machine learning procedures. The most interesting aspect of LLLL is its bidirectional approach as its name stands. It provides a unique forum for researchers to explore the synergy between the two approaches.

It is our great pleasure that we are 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 2009, and may be motivated to participate in future JSAI-isAI events.

May 2010

Kumiyo Nakakoji  
Yohei Murakami  
Eric McCready

# Organization and Editorial Board

The paper selection of each co-located international workshop was made by the Program Committee of the workshop. Upon the decisions of the paper selections, each chapter was edited by the co-located international workshop committees. The entire contents and structure of the book were managed and edited by the chief editors.

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# Table of Contents

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## Part I: Juris-Informatics

---

Third International Workshop on Juris-Informatics . . . . .	3
<i>Seiichiro Sakurai</i>	
Using BATNAs and WATNAs in Online Dispute Resolution . . . . .	5
<i>Francisco Andrade, Paulo Novais, Davide Carneiro, John Zeleznikow, and José Neves</i>	
Thai Succession and Family Law Ontology Building Using Ant Colony Algorithm . . . . .	19
<i>Vi-sit Boonchom and Nuanwan Soonthornphisaj</i>	
Reflective Visualization of the Agreement Quality in Mediation . . . . .	33
<i>Yoshiharu Maeno, Katsumi Nitta, and Yukio Ohsawa</i>	
Implementing Temporal Defeasible Logic for Modeling Legal Reasoning . . . . .	45
<i>Guido Governatori, Antonino Rotolo, and Rossella Rubino</i>	
Evaluating Cases in Legal Disputes as Rival Theories . . . . .	59
<i>Pontus Stenetorp and Jason Jingshi Li</i>	
Law-Aware Access Control: About Modeling Context and Transforming Legislation . . . . .	73
<i>Michael Stieghahn and Thomas Engel</i>	

---

## Part II: Knowledge Collaboration in Software Development

---

3rd International Workshop on Supporting Knowledge Collaboration in Software Development (KCS2009) . . . . .	89
<i>Masao Ohira and Yunwen Ye</i>	
On the Central Role of Mailing Lists in Open Source Projects: An Exploratory Study . . . . .	91
<i>Emad Shihab, Nicolas Bettenburg, Bram Adams, and Ahmed E. Hassan</i>	
A Proposal of TIE Model for Communication in Software Development Process . . . . .	104
<i>Masakazu Kanbe, Shuichiro Yamamoto, and Toshizumi Ohta</i>	

Identifying the Concepts That Are Searchable with Keywords in Code Search Engines . . . . .	116
<i>Toshihiro Kamiya</i>	
On the Use of Emerging Design as a Basis for Knowledge Collaboration . . . . .	124
<i>Tiago Proenca, Nilmar Teones Moura, and André van der Hoek</i>	
A Time-Lag Analysis for Improving Communication among OSS Developers . . . . .	135
<i>Masao Ohira, Kiwako Koyama, Akinori Ihara, Shinsuke Matsumoto, Yasutaka Kamei, and Ken-ichi Matsumoto</i>	
Comparison of Coordination Communication and Expertise Communication in Software Development: Motives, Characteristics, and Needs . . . . .	147
<i>Kumiyo Nakakoji, Yunwen Ye, and Yasuhiro Yamamoto</i>	

---

**Part III: Logic and Engineering of Natural Language Semantics**

---

6th International Workshop on Logic and Engineering of Natural Language Semantics (LENLS 6) . . . . .	159
<i>Daisuke Bekki</i>	
Representing Covert Movements by Delimited Continuations . . . . .	161
<i>Daisuke Bekki and Kenichi Asai</i>	
Problems with Intervention and Binding into Relations . . . . .	181
<i>Alastair Butler and Kei Yoshimoto</i>	
A Translation from Logic to English with Dynamic Semantics . . . . .	197
<i>Elizabeth Coppock and David Baxter</i>	
Semantics of Possibility Suffix “(Rar)e” . . . . .	217
<i>Takashi Iida</i>	
An Adaptive Logic for the Formal Explication of Scalar Implicatures . . .	235
<i>Hans Lycke</i>	
Two Kinds of Procedural Semantics for Privative Modification . . . . .	252
<i>Giuseppe Primiero and Bjørn Jespersen</i>	
On the Nature and Formal Analysis of Indexical Presuppositions . . . . .	272
<i>Igor Yanovich</i>	
Non-standard Uses of German 1st Person Singular Pronouns . . . . .	292
<i>Sarah Zobel</i>	



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**Part IV: Learning with Logics and Logics for Learning**


---

The Sixth Workshop on Learning with Logics and Logics for Learning (LLLL2009) .....	315
<i>Akihiro Yamamoto, Kouichi Hirata, and Shin-ichi Minato</i>	
Inferability of Unbounded Unions of Certain Closed Set Systems .....	317
<i>Yuichi Kameda and Hiroo Tokunaga</i>	
Mining Frequent $k$ -Partite Episodes from Event Sequences .....	331
<i>Takashi Katoh, Hiroki Arimura, and Kouichi Hirata</i>	
Learning from Positive Data Based on the MINL Strategy with Refinement Operators .....	345
<i>Seishi Ouchi and Akihiro Yamamoto</i>	
Computing Minimal Models by Positively Minimal Disjuncts .....	358
<i>Ken Satoh</i>	
<b>Author Index</b> .....	<b>373</b>