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# New Frontiers in Artificial Intelligence

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Revised Selected Papers

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# Preface

The progress in information technology including artificial intelligence (AI) in the last few decades is remarkable, and has attracted many young researchers to this field. This trend is now accelerated along with the recent rapid growth of computer communication networks and the worldwide increase in researchers. In this context, we have observed many outstanding AI studies in Japanese domestic conferences. They have high technical originality, quality and significance. The annual conference of JSAI (Japan Society for Artificial Intelligence) is one of the key and representative domestic meetings in the field of intelligent information technology. Award papers in this conference have an excellent quality of international standards. The annual conference of JSAI also organizes co-located international workshops to provide excellent study reports.

The objectives of this book are to present the award papers of the 20th annual conference of JSAI 2006 and selected papers from the three co-located international workshops and to promote the study exchange among researchers worldwide. Eight papers were awarded among more than 200 presentations in the conference, and 21 papers were selected from a total of 44 presentations in the workshops of Logic and Engineering of Natural Language Semantics 2006 (LENLS 2006), Learning with Logics and Logics for Learning (LLLL 2006) and Risk Mining (RM 2006). The award papers in the 20th annual conference of JSAI 2006 were selected from presentations covering the wide field of artificial intelligence through the processes of candidate recommendations, detailed open discussions and voting by Program Committee members of the conference. The LENLS workshop series is organized under the aim of bringing together researchers working on information structure and/or dynamic semantics for natural language. LENLS 2006 focused on formal pragmatics in particular. The LLLL 2006 workshop was held to bring together researchers who are interested in the areas of machine learning and computational logic, and to have intensive discussions on various relations between the two thereby making their interchange more active. RM 2006 was held with the aim of sharing and comparing experiences on risk mining techniques applied to risk detection, risk clarification and risk utilization in real fields.

We hope this book introduces the excellent Japanese studies on AI to the world and contributes to the growth of the worldwide community of AI researchers.

November 2006 Takashi Washio

# Organization and Editorial Board

The award papers were selected by the Program Committee of the annual conference of JSAI (Japan Society for Artificial Intelligence) 2006. The paper selection of each co-located international workshop was made by the Program Committee of each workshop. Upon the decisions of the paper awards and the paper selections, each chapter was edited by the Program Chairs of the 20th annual JSAI conference and the co-located international workshops. The entire contents and structure of the book were managed and edited by the chief editors.

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# Table of Contents

## New Frontiers in Artificial Intelligence: Proceedings of the 20th Annual Conferences of the Japanese Society for Artificial Intelligence

## Part I Awarded Papers


Overview of Awarded Papers – The 20th Annual Conference of JSAI ..... 3
*Hideaki Takeda*

Translational Symmetry in Subsequence Time-Series Clustering ..... 5
*Tsuyoshi Idé*

Visualization of Contents Archive by Contour Map Representation ..... 19
*Hidekazu Kubota, Toyoaki Nishida, and Yasuyuki Sumi*

Discussion Ontology: Knowledge Discovery from Human Activities in Meetings ..... 33
*Hironori Tomobe and Katashi Nagao*

Predicting Types of Protein-Protein Interactions Using a Multiple-Instance Learning Model ..... 42
*Hiroshi Yamakawa, Koji Maruhashi, and Yoshio Nakao*

Lattice for Musical Structure and Its Arithmetics ..... 54
*Keiji Hirata and Satoshi Tojo*

Viewlon: Visualizing Information on Semantic Sensor Network ..... 65
*Masayuki Furuyama, Jun Mukai, and Michita Imai*

Cooperative Task Achievement System Between Humans and Robots Based on Stochastic Memory Model of Spatial Environment ..... 77
*Tetsunari Inamura, Tomohiro Kawaji, Tomoyuki Sonoda, Kei Okada, and Masayuki Inaba*

People Who Create Knowledge Sharing Communities ..... 88
*Asako Miura, Yasuyuki Kawaura, Setsuko Jifuku, Naoko Otaki, and Makoto Okamoto*

## Part II Logic and Engineering of Natural Language Semantics

Logic and Engineering of Natural Language Semantics (LENLS) 3 ..... 101
*Elin McCready*

A Dynamic Semantics of Intentional Identity ..... 103
*Norihiro Ogata*

Prolegomena to General-Imaging-Based Probabilistic Dynamic Epistemic Logic ..... 118
*Satoru Suzuki*

Logical Dynamics of Commands and Obligations ..... 133
*Tomoyuki Yamada*

On Factive Islands: Pragmatic Anomaly vs. Pragmatic Infelicity ..... 147
*David Y. Oshima*

Aspects of the Indefiniteness Effect ..... 162
*Linton Wang and Elin McCready*

Interpreting Metaphors in a New Semantic Theory of Concept ..... 177
*Yi Mao and Beihai Zhou*

Covert Emotive Modality Is a Monster ..... 191
*Sumiyo Nishiguchi*

Conversational Implicatures Via General Pragmatic Pressures ..... 205
*Christopher Potts*

*Dake-wa*: Exhaustifying Assertions ..... 219
*Yurie Hara*

Unembedded 'Negative' Quantifiers ..... 232
*Yukio Furukawa*

## Part III Learning with Logics and Logics for Learning

The Fourth Workshop on Learning with Logics and Logics for Learning (LLLL2006) ..... 249
*Akihiro Yamamoto, Kouichi Hirata, and Ken Satoh*

Consistency Conditions for Inductive Inference of Recursive Functions ..... 251
*Yohji Akama and Thomas Zeugmann*

Inferability of Closed Set Systems from Positive Data . . . . . 265
*Matthew de Brecht, Masanori Kobayashi, Hiroo Tokunaga, and Akihiro Yamamoto*

An Extended Branch and Bound Search Algorithm for Finding Top-$N$ Formal Concepts of Documents . . . . . 276
*Makoto Haraguchi and Yoshiaki Okubo*

N-Gram Analysis Based on Zero-Suppressed BDDs . . . . . 289
*Ryutaro Kurai, Shin-ichi Minato, and Thomas Zeugmann*

**Part IV Risk Mining**

Risk Mining - Overview . . . . . 303
*Shusaku Tsumoto and Takashi Washio*

Analysis on a Relation Between Enterprise Profit and Financial State by Using Data Mining Techniques . . . . . 305
*Takashi Washio, Yasuo Shinnou, Katsutoshi Yada, Hiroshi Motoda, and Takashi Okada*

Unusual Condition Detection of Bearing Vibration in Hydroelectric Power Plants for Risk Management . . . . . 317
*Takashi Onoda, Norihiko Ito, and Kenji Shimizu*

Structural Health Assessing by Interactive Data Mining Approach in Nuclear Power Plant . . . . . 332
*Yufei Shu*

Developing Mining-Grid Centric e-Finance Portals for Risk Management . . . . . 346
*Jia Hu, Muneaki Ohshima, and Ning Zhong*

Knowledge Discovery from Click Stream Data and Effective Site Management . . . . . 360
*Katsutoshi Yada and Kosuke Ohno*

Sampling-Based Stream Mining for Network Risk Management . . . . . 374
*Kenichi Yoshida*

Relation Between Abductive and Inductive Types of Nursing Risk Management . . . . . 387
*Akinori Abe, Hiromi Itoh Ozaku, Noriaki Kuwahara, and Kiyoshi Kogure*

**Author Index** . . . . . 401