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Ricard Gavaldà Klaus P. Jantke
Eiji Takimoto (Eds.)

# Algorithmic Learning Theory

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Proceedings

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# Preface

This volume contains the papers presented at the 14th Annual Conference on Algorithmic Learning Theory (ALT 2003), which was held in Sapporo (Japan) during October 17–19, 2003. The main objective of the conference was to provide an interdisciplinary forum for discussing the theoretical foundations of machine learning as well as their relevance to practical applications. The conference was co-located with the 6th International Conference on Discovery Science (DS 2003).

The volume includes 19 technical contributions that were selected by the program committee from 37 submissions. It also contains the ALT 2003 invited talks presented by Naftali Tishby (Hebrew University, Israel) on "Efficient Data Representations that Preserve Information," by Thomas Zeugmann (University of Lübeck, Germany) on "Can Learning in the Limit be Done Efficiently?", and by Genshiro Kitagawa (Institute of Statistical Mathematics, Japan) on "Signal Extraction and Knowledge Discovery Based on Statistical Modeling" (joint invited talk with DS 2003). Furthermore, this volume includes abstracts of the invited talks for DS 2003 presented by Thomas Eiter (Vienna University of Technology, Austria) on "Abduction and the Dualization Problem" and by Akihiko Takano (National Institute of Informatics, Japan) on "Association Computation for Information Access." The complete versions of these papers were published in the DS 2003 proceedings (Lecture Notes in Artificial Intelligence Vol. 2843).

ALT has been awarding the *E. Mark Gold Award* for the most outstanding paper by a student author since 1999. This year the award was given to Sandra Zilles for her paper "Intrinsic Complexity of Uniform Learning."

This conference was the 14th in a series of annual conferences established in 1990. Continuation of the ALT series is supervised by its steering committee, consisting of: Thomas Zeugmann (Univ. of Lübeck, Germany), Chair, Arun Sharma (Univ. of New South Wales, Australia), Co-chair, Naoki Abe (IBM T.J. Watson Research Center, USA), Klaus Peter Jantke (DFKI, Germany), Phil Long (National Univ. of Singapore), Hiroshi Motoda (Osaka Univ., Japan), Akira Maruoka (Tohoku Univ., Japan), Luc De Raedt (Albert-Ludwigs-Univ., Germany), Takeshi Shinohara (Kyushu Institute of Technology, Japan), and Osamu Watanabe (Tokyo Institute of Technology, Japan).

We would like to thank all individuals and institutions who contributed to the success of the conference: the authors for submitting papers, the invited speakers for accepting our invitation and lending us their insight into recent developments in their research areas, as well as the sponsors for their generous financial support.

Furthermore, we would like to express our gratitude to all program committee members for their hard work in reviewing the submitted papers and participating in on-line discussions. We are also grateful to the external referees whose reviews made a considerable contribution to this process.

We are also grateful to the DS 2003 Chairs Yuzuru Tanaka (Hokkaido University, Japan), Gunter Grieser (Technical University of Darmstadt, Germany) and Akihiro Yamamoto (Hokkaido University, Japan) for their efforts in coordinating with ALT 2003, and to Makoto Haraguchi and Yoshiaki Okubo (Hokkaido University, Japan) for their excellent work on the local arrangements. Last but not least, Springer-Verlag provided excellent support in preparing this volume.

August 2003

Ricard Gavaldà
Klause P. Jantke
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