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9th International Conference, ALT'98
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Volume Editors

Michael M. Richter
Universität Kaiserslautern, AG Künstliche Intelligenz - Expertensysteme
Postfach 3049, D-67653 Kaiserslautern, Germany
E-mail: richter@informatik.uni-kl.de

Carl H. Smith
University of Maryland, Department of Computer Science
College Park, MD 20742, USA
E-mail: smith@cs.umd.edu

Rolf Wiehagen
Universität Kaiserslautern, AG Algorithmischesn Lernen
Postfach 3049, D-67653 Kaiserslautern, Germany
E-mail: wiehagen@informatik.uni-kl.de

Thomas Zeugmann
Kyushu University
Graduate School of Information Science and Electrical Engineering
Department of Informatics
Kassuga 816-8580, Japan
E-mail: thomas@i.kyushu-u.ac.jp

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Preface

This volume contains all the papers presented at the Ninth International Conference on Algorithmic Learning Theory (ALT'98), held at the European education centre Europäisches Bildungszentrum (ebz) Otzenhausen, Germany, October 8–10, 1998. The Conference was sponsored by the Japanese Society for Artificial Intelligence (JSAI) and the University of Kaiserslautern.

Thirty-four papers on all aspects of algorithmic learning theory and related areas were submitted, all electronically. Twenty-six papers were accepted by the program committee based on originality, quality, and relevance to the theory of machine learning. Additionally, three invited talks presented by Akira Maruoka of Tohoku University, Arun Sharma of the University of New South Wales, and Stefan Wrobel from GMD, respectively, were featured at the conference. We would like to express our sincere gratitude to our invited speakers for sharing with us their insights on new and exciting developments in their areas of research.

This conference is the ninth in a series of annual meetings established in 1990. The ALT series focuses on all areas related to algorithmic learning theory including (but not limited to): the theory of machine learning, the design and analysis of learning algorithms, computational logic of/for machine discovery, inductive inference of recursive functions and recursively enumerable languages, learning via queries, learning by artificial and biological neural networks, pattern recognition, learning by analogy, statistical learning, Bayesian/MDL estimation, inductive logic programming, robotics, application of learning to databases, and gene analyses.

The variety of approaches presented in this and the other ALT proceedings reflects the continuously growing spectrum of disciplines relevant to machine learning and its applications. The many possible aspects of learning that can be formally investigated and the diversity of viewpoints expressed in the technical contributions clearly indicate that developing models of learning is still particularly important to broaden our understanding of what learning really is, under which circumstances it can be done, what makes it feasible and complicated, respectively, and what are appropriate tools for analyzing it. This ALT conference as well as its predecessors aimed to extend and to intensify communication in the continuously growing scientific community interested in the phenomenon of learning.

Starting this year, the ALT series will further endeavor to bring both the theoretical and the experimental communities under one umbrella by organizing a satellite workshop on *applied learning theory* before or after the annual meeting. Ideally, people in theory should benefit by learning about challenging research problems which arose in practice, and people in application may benefit by getting answers to their problems from theoreticians. Putting these two activities under the unifying ALT logo promted us to rename the ALT series into *annual conference on Algorithmic Learning Theory.*

The continuing success of these ALT meetings has been managed and supervised by its steering committee consisting of Setsuo Arikawa (Chair, Kyushu Univ., Fukuoka), Takashi Yokomori (Waseda Univ., Tokyo), Hiroshi Imai (Univ. of Tokyo), Teruyasu Nishizawa (Niigata Univ.), Akito Sakurai (JAIST, Tokyo), Taiske Sato (Tokyo Inst. Technology), Takeshi Shinohara (Kyushu Inst. Technology, Iizuka), Masayuki Numao (Tokyo Inst. Technology), and Yuji Takada (Fujitsu, Fukuoka).

ALT'98 was chaired by Michael M. Richter (University of Kaiserslautern) and co-chaired by Carl H. Smith (University of Maryland, College Park). The local arrangements chair was Edith Hüttel (University of Kaiserslautern).

We would like to express our immense gratitude to all the members of the program committee, which consisted of:

P. Bartlett (ANU, Australia)
S. Ben-David (Technion, Israel)
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R. Wiehagen (Univ. Kaiserslautern, Germany, Chair)
T. Zeugmann (Kyushu Univ., Japan, Co-Chair)

They and the subreferees they enlisted put a huge amount of work into reviewing the submissions and judging their importance and significance.

We would like to thank everybody who made this meeting possible: the authors for submitting papers, the invited speakers for accepting our invitation, the local arrangement chair Edith Hüttel, the ALT steering committee, the sponsors, IFIP Working Group 1.4, for providing a student scholarship, and Springer-Verlag. Furthermore, the program committee heartily thanks all referees who are listed on a separate page for their hard work. We also gratefully acknowledge Shinichi Shimozono's contribution in helping to produce the ALT'98 logo, and Masao Mori's assistance for setting up the ALT'98 Web pages.

Kaiserslautern — Michael M. Richter
College Park — Carl H. Smith
Kaiserslautern — Rolf Wiehagen
Fukuoka — Thomas Zeugmann
July 1998

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