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Tony Marsland   Ian Frank (Eds.)

# Computers and Games

Second International Conference, CG 2000  
Hamamatsu, Japan, October 26-28, 2000  
Revised Papers



Springer

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# Preface

This book contains the papers presented at CG 2000 – the Second International Conference on Computers and Games – held at the CURREAC Center in Hamamatsu, Japan, on October 26–28, 2000.

The CG conferences provide an international forum for researchers working on any aspect of computers and games to meet and exchange information on the latest research. CG 2000 was attended by 80 people from over a dozen different countries, thus building on the success of the inaugural Computers and Games conference, held in 1998. The third conference in the series is scheduled to take place alongside the AAAI conference in Edmonton, Alberta, Canada in 2002. The interests of the conference attendees and organizers cover all issues related to game-playing; for instance, the implementation and performance of programs, new theoretical developments in game-related research, general scientific contributions produced by the study of games, social aspects of computer games, cognitive research on how humans play games, and issues related to networked games.

This book contains all the new developments presented at CG 2000. The CG 2000 technical program consisted of 23 presentations of accepted papers and a panel session. In addition there were invited talks by Michael Littman of AT&T Labs, Kei-ichi Tainaka of Shizuoka University, and Nob Yoshigahara, noted inventor, collector, and popularizer of puzzles. The conference was preceded by an informal workshop on October 26, 2000.

The 23 accepted papers were selected by the Program Committee from a total of 44 submissions. Each paper was sent to three referees, who were chosen on the basis of their expert knowledge. A total of 18 papers were clearly acceptable, and 16 papers were not yet ready for publication. Two other submissions were accepted as papers for the panel session (for which an extra three papers were solicited) and the remaining eight works were returned to the authors with the request to address the substantial concerns of one referee, and with the statement that they would be thoroughly reviewed again. Finally, with the help of many referees (see the end of this preface), the Program Committee accepted an additional five of the eight re-reviewed papers for presentation and publication.

The international and varied nature of the papers presented at CG 2000 reflects the diversity of the backgrounds and the many different views brought to “computers and games” (both the conference and the research field) by researchers around the globe. Unfortunately, this diversity also makes it difficult to group the papers neatly into a small number of categories. To provide an ordering for including the papers in this book, we somewhat arbitrarily impose the following structure: Search and Strategies (four papers), Learning and Pattern Acquisition (seven papers), Theory and Complexity Issues (six papers), Further Experiments with Games (six papers), Invited Talks (two papers), and Panel Session (five papers).

## Acknowledgements

CG 2000 was made possible by the efforts of many people and organizations. On the following pages, we give a list of names ordered by function and by support.

Special thanks are due in a number of areas. First and foremost, neither CG 2000 nor this volume would have been possible without the generous support of our sponsors. We express our gratitude to: the Japanese Society for the Promotion of Science (JSPS), the Electrotechnical Laboratory (ETL), Shizuoka University, the Hamamatsu Visitors and Convention Bureau, The Shizuoka Organization for Creation of Industries, and the University of Alberta (Computing Science).

Further, the editors gratefully acknowledge the expert assistance of the Program Advisory Committee and the time and expertise given by the referees. We would also like to express our sincere gratitude to Ms. Anne Nield who assisted us during the reviewing phase of the conference.

During the conference itself, the schedule and events organized by the Local Arrangements Committee were much appreciated by all. We thank all the members of the Local Arrangements Committee for the enthusiasm and attention to detail they put into ensuring the smooth running of the conference (looking after 80 researchers and theoreticians for a few days isn't easy...). We especially thank Ms. Akiko Taniguchi and Ms. Karen Ohara for managing the registration desk and Uri & Sandra Globus and Markian Hynka for organizing the excursions. Thanks are also due to numerous other volunteer helpers, including Zahidul Haque, Tsuyoshi Hashimoto, Atushi Hondoh, Tatsuya Irisawa, Takashi Sugiyama, Tsuyoshi Suzuki, Katsutoshi Usui, and Satoshi Watanabe.

October 2001

Tony Marsland  
Ian Frank

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We thank all the following for their support in organizing CG 2000.

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## **Cooperative Organizations**

Computer Shogi Association (CSA)  
 Computer Go Forum (CGF)  
 International Computer Chess Association (ICCA)  
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