Table of Contents

Part 1: Evaluation and Learning

Distinguishing Gamblers from Investors at the Blackjack Table .......... 1  
David Wolfe

MOUSE($\mu$): A Self-teaching Algorithm that Achieved Master-Strength  
at Othello .......................................................... 11  
Konstantinos Tournavitis

Investigation of an Adaptive Cribbage Player ............................. 29  
Graham Kendall and Stephen Shaw

Learning a Game Strategy Using Pattern-Weights and Self-play .......... 42  
Ari Shapiro, Gil Fuchs, and Robert Levinson

Part 2: Search

PDS-PN: A New Proof-Number Search Algorithm .......................... 61  
Mark H.M. Winands, Jos W.H.M. Uiterwijk, and Jaap van den Herik

A Generalized Threats Search Algorithm ............................... 75  
Tristan Cazenave

Proof-Set Search ...................................................... 88  
Martin Müller

A Comparison of Algorithms for Multi-player Games ........................ 108  
Nathan Sturtevant

Selective Search in an Amazons Program ................................. 123  
Henry Avetisyan and Richard J. Lorentz

Playing Games with Multiple Choice Systems ............................ 142  
Ingo Althöfer and Raymond Georg Snatzke

The Neural MoveMap Heuristic in Chess ................................. 154  
Levente Koceis, Jos W.H.M. Uiterwijk, Eric Postma,  
and Jaap van den Herik

Board Maps and Hill-Climbing for Opening  
and Middle Game Play in Shogi ...................................... 171  
Reijer Grimbergen and Jeff Rollason
Part 3: Combinatorial Games/Theory

Solitaire Clobber ................................................... 188
   Erik D. Demaine, Martin L. Demaine, and Rudolf Fleischer

Complexity of Error-Correcting Codes Derived from Combinatorial Games ........................................ 201
   Aviezri S. Fraenkel and Ofer Rahat

Analysis of Composite Corridors ................................. 213
   Teigo Nakamura and Elwyn Berlekamp

Part 4: Opening/Endgame Databases

New Winning and Losing Positions for $7 \times 7$ Hex .................. 230
   Jing Yang, Simon Liao, and Miroslaw Pawlak

Position-Value Representation in Opening Books .................. 249
   Thomas R. Lincke

Indefinite Sequence of Moves in Chinese Chess Endgames ................ 264
   Haw-ren Fang, Tsan-sheng Hsu, and Shun-chin Hsu

Part 5: Commercial Games

ORTS: A Hack-Free RTS Game Environment .................... 280
   Michael Buro

Causal Normalization: A Methodology for Coherent Story Logic Design in Computer Role-Playing Games ............... 292
   Craig A. Lindley and Mirjam Eladhari

A Structure for Modern Computer Narratives .................... 308
   Clark Verbrugge

Part 6: Single-Agent Search/Planning

Tackling Post’s Correspondence Problem ...................... 326
   Ling Zhao

Perimeter Search Performance ................................ 345
   Carlos Linares López and Andreas Junghanns

Using Abstraction for Planning in Sokoban .................... 360
   Adi Botea, Martin Müller, and Jonathan Schaeffer
Part 7: Computer Go

A Small Go Board Study of Metric and Dimensional Evaluation Functions ........................................... 376
Bruno Bouzy

Local Move Prediction in Go ........................................ 393
Erik van der Werf, Jos W.H.M. Uiterwijk, Eric Postma, and Jaap van den Herik

Evaluating Kos in a Neutral Threat Environment: Preliminary Results ........................................... 413
William L. Spight

Author Index ..................................................................... 429

Game Index ..................................................................... 431
Computers and Games
Schaeffer, J.; Müller, M.; Björnsson, Y. (Eds.)
2003, XII, 436 p., Softcover
ISBN: 978-3-540-20545-6