

Index

- $\alpha\beta$ 13–14
- 15-puzzle 3, 5
- A* 29
- ALL node 14
- all-move-as-first heuristic 22
- ancestor 11
- Backgammon 3, 18
- backpropagation strategy 21, 32
- best-first search 6
- Best-Reply Search 90, 93–96
- Bridge 4, 5
- butterfly heuristic 16
- Careful maxⁿ 92
- Chain Shot 26
- ChanceBreakthrough 76–78, 111
- ChanceProbCut 70–71
- checkers 3, 7, 42, 47, 50, 60, 61
- chess 3, 5, 15–17, 53
- child 12
- Chinese Checkers 4, 5, 90, 93, 97–98, 112
- CHINOOK 8
- Clickomania 27, 28
- collision 18
- comixer 92
- complexity jump 7
- Connect-Four 7, 42
- cooperative game 90
- CRAZY STONE 6
- Cross-Entropy Method 33–34
- CUT node 14
- DEEP BLUE 3
- Depth-Budgeted Search 28
- depth-first search 5
- descendant 11
- Dice 76, 78, 111
- dynamic move ordering 15
- edge 11
- elite samples 33
- endgame databases 43
- Enhanced Transposition Cutoff 18
- expanded 11
- expansion strategy 21, 32
- expectimax 64–65
- exploitation 19, 30
- exploration 19, 30
- Fanoron-Dimyand 43
- Fanoron-Telo 43
- Fanoron-Tsivy 43
- Fanorona 43–46, 53, 56, 60, 61, 111
- final move selection 32
- flag 17
- Focus 90, 98–99, 112
- forward pruning 63, 69–70
- FUEGO 23
- game 11
- game tree 11
- game-theoretic value 12, 42
- game-tree complexity 27
- Gaps 19
- Go 3, 5, 6, 16, 19, 22
- Go-Moku 43
- graph-history-interaction problem 17
- hash index 17
- hash key 17
- hash value 17
- Hearts 93
- Hex 6, 42
- HGSTS 29
- history heuristic 16
- IDA* 29
- imperfect information 3, 63
- interior 12
- iterative deepening 16–17
- Jawbreaker 27
- killer heuristic 15–16
- Klondike Solitaire 4, 5
- knowledge methods 42
- Kriegspiel 3, 5

- last-branch pruning 92
- leaf 12
- leaf parallelization 22–23
- Lines of Action (LOA) 6, 16, 60
- Ludo 4, 5
- mate-solver 42
- MAVEN 3
- maxⁿ 89, 91–92, 96
- MIA 60
- minimal game tree 12
- minimax 5, 12
- MoGo 3, 6
- Monopoly 4, 5
- Monte Carlo with Roulette-Wheel Selection 28
- Monte-Carlo 18
- Monte-Carlo Tree Search 6, 18–21
- Morpion Solitaire 18, 40
- move ordering 15
- Multi-Cut 69
- multi-player game 4
- Multi-ProbCut 69
- negamax 12
- Nine Men’s Morris 7
- node 11
- non-cooperative game 90
- non-deterministic 3, 63
- null move 69
- one-player game 3
- Othello 99–100
- paika 44
- parallelization 22–23
- paranoid 89, 92–93, 96
- parent 12
- path 11
- Phantom Go 3, 5
- play-out 20
- ply 12
- PN² 53
- Poker 4, 5, 18
- principal variation 14
- prob-maxⁿ 92
- ProbCut 69
- progressive bias 21
- progressive history 108
- progressive widening 22
- Proof-Number search 6, 52–53
- pruning 13
- PV node 14
- Qubic 53
- randomized restarts 32
- Rapid Action-Value Estimation 22
- relative history heuristic 16
- replacement scheme 18
- retrograde analysis 43
- Rolit 90, 99–101, 112
- root 11
- root parallelization 23
- Rubik’s Cube 3
- SameGame 26–32, 38, 40
- Scotland Yard 5
- Scrabble 3, 5, 18
- search depth 12
- search extensions 69
- search tree 12
- selection strategy 19, 30
- SIA 60
- siblings 12
- Siguo 5, 76
- simulation strategy 20, 31
- soft-maxⁿ 92
- Sokoban 29
- SP-MCTS 30–32
- speculative pruning 92
- SPURIOUS AI 29, 38, 39
- SSS* 6
- Star1 pruning 66–67
- Star2 pruning 67–68
- StarETC 76
- state-space complexity 27
- static move ordering 15
- Stratego 72–78, 111
- strongly solved 42
- subtree 12
- sudden-death 58
- Sudoku 40
- Surakarta 60
- TD-GAMMON 3
- terminal node 11
- terminal position 11
- Tetris 4, 5
- Threat-Space Search 42
- Tic-Tac-Toe 12, 43
- transposition table 17–18
- tree parallelization 23
- ultra-weakly solved 42
- variable-depth search 5, 69
- virtual database 49
- virtual loss 23
- weakly solved 42