

Hex is a strategic, two-player board game. The goal of this work is to design and implement the Hex game itself and a couple of AI agents that are able to play Hex. First, we analyzed Hex from the game theory point of view and described some of the popular AI algorithms used for similar games. We also listed some of the current research progress in the field of exploring Hex and creating AI agents for it. Finally, we implemented the three AI agents and experimentally tested which performed the best and with which parameters. The AI agents implemented are: a heuristic agent using heuristics to make its moves; a more advanced minimax agent using the minimax algorithm with alpha-beta pruning; and a Monte Carlo Tree Search agent using the probabilistic Monte Carlo Tree Search approach.