EXPLORING SELF-TEACHING GAME ALGORITHMS

Machine learning is an important field in Computer Science. One of the most recent breakthroughs is Google Deepmind's creation of AlphaZero, a game-playing algorithm which combines several machine learning tactics to create a self-teaching algorithm that, given certain parameters, can teach itself how to play any turn-based game with set rules. In our research, we studied self-teaching machine learning game-playing algorithms with the intention of deepening our understanding of self-teaching chess algorithms, such as lc0 and alpha zero. We used two chess engines, one which was self-taught, lc0, and one which was hard coded for chess, stock fish; we used the algorithms to examine how each responded to a list of chess board positions called FENs. We compared the programs' solutions with each other and with the predetermined answer for each FEN and looked at where the programs agreed and disagreed with each other in order to draw conclusions and develop future questions based on how each program responded to certain FENs.