

## GEA Worksheet

**Goal-** The main goal of our chess bot is to be good at chess and win. More specifically, we want our AI to make the best move possible for each turn, or at least the best move that it can find given a certain amount of time to search. We also want it to minimize losses during the game and maximize efficiency so it can win within a reasonable time.

**Environment-** The environment our AI will work with is a standard chessboard. The bot will be given pieces that have specific rules for each chess piece type. The bot will need to adhere to the rules of the game and only make legal moves. There will also be a single opponent that the bot must play in order to train and test. This opponent may be a human or another AI.

**Adaptation-** The chess bot will adapt to the game of chess with the goal of having a higher win-loss ratio by optimizing each move given the board. Instead of using an algorithm to tell the chess bot exactly what moves to make given the current environment, we will use a neural network to train the A.I. to make its own decision about what moves to make. This will take a significant amount of training data, but luckily, there is plenty of data available online.