



In the graph, the green line represents player 1 (that always has 100 nodes). The purple line is player 2, with different node sizes of 100, 250, 500, and 1,000.

For the MCTS vanilla bot, the win rates increase as the number of nodes increases. This is because when the bot was able to do more simulations of games, the UCT score was more informed, leading to better moves overall. The exploitation part of the UCT equation had a better judgment of how good a move is.

We used four different tree sizes in the experiment, each leading to various results. The smallest tree, size 100, had similar results to player 1 since they had equal footing. The game was very close, with a difference of less than 10 wins between the winner and the loser. However, with the biggest tree size, player 2 consistently won against player 1. The difference in ability between the players was easily shown, as player 2 got more wins over time.