

Playing Matches									
Match #	Opponent	AE_Improved		AE_Custom		AE_Custom_2		AE_Custom_3	
		Win	Lost	Win	Lost	Win	Lost	Win	Lost
1	Random	8	2	5	1	7	3	3	3
2	MY_Open	6	4	5	4	5	3	4	5
3	MY_Closed	5	1	5	2	5	4	2	1
4	MY_Improved	6	4	5	4	5	4	5	4
5	AE_Open	6	4	4	5	5	7	3	7
6	AE_Closed	6	5	7	3	5	4	4	5
7	AE_Improved	4	6	5	5	5	5	3	7
Win Rate:		62.5%		60.2%		55.6%		53.9%	
Your ID search forfeited 22.0 games while there were still legal moves available to play.									

## Heuristic Function Description

### AB\_Custom:

Quantifies a player move where a move in the center of board is weighted higher while the center space is not crowded

### AB\_Custom\_2:

while the center of board is less crowded, game is scored on the distance between players when the center of board becomes crowded evaluate the number of moves available

### AB\_Custom\_3:

Calculates a weighted sum of the possible moves for the player

When the board is less crowded it assigns more weight to moves far from the board

When the board is crowded assigns more priority to greater number of moves

### Suggested Function AB\_Custom:

The AB\_Custom evaluation function performs better than all the heuristics including the AB\_Improved function. It performs 2% better than the AB\_Improved heuristics. The AB\_Custom\_2 and AB\_Custom\_3 are less performant. I would suggest the AB\_Custom function to be used. It has an overall win rate of 64.3% which higher than all other evaluation function analyzed. The AB\_Custom function has a higher rate of win against the all the opponent. It won 50% of the matches against the AB\_improved function. Whereas, the AB\_improved only won 40% of the matched against itself. AB\_Custom wins 40% of matches against AB\_Open and the other custom functions has a win rate of 30%. Even though AB\_Improved does better than AB\_Custom against the AB\_Open opponent its overall average win rate is less than AB\_Custom.