**Heuristc Analisys – Adversarial Search**

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Course: Udacity - Nanodegree in AI – Adversarial Search Project

**Custom\_score:**

The best one is simple, this just combine the center\_score with the improved\_score multiplying both.

There is a modification in the center\_score part. It was rewarding the player to stay away the center, I changed it to reward to stay next to the center

**Custom\_score\_2:**

This one tries to calculate the dominated area of each player, getting the area behind each, considering the players always facing their opponents.

As the first heuristic, this one also lends the improved\_score to complement it.

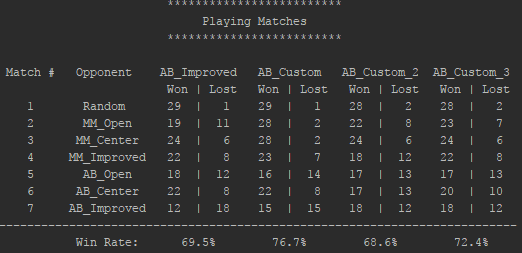
**Custom\_score\_3:**

This heuristic consists in find the “center of mass” of the blank spaces and then act as the custom\_score, rewarding the agent for being closer to this center as possible.

Additionally, I calculated quantity of possible moves of the player minus the possible moves of the opponent, as the improved\_score does.

Finally, I multiplied the both to have my heuristic.

**Results Analysis:**



All the results were very close, but the AB\_Custom is consistent. I’ve ran the tournament several times, and it won mostly.

It’s a shame that the blank center mass didn’t the best, at least it is nice. Maybe the loop inside slows it, and it is not able to reach deeper trees.

So, the chosen one is the **Custom\_score**, for the reasons below:

1. In the beginning of the study I’ve played some games of isolation against the min\_max, and one of my concerns was not to stay locked up in the corners, and the other was ever stay in better conditions than my opponent. So, this one can translate my strategy in a simple form.
2. It’s relative fast, there is no loops, or square roots, or anything that can slow down it. The Custom\_score\_3 for example, it translates better my strategy, but allow a less deep search, because it is complex.
3. And of course, it has the better win ration of all.