7/15/2021 Proposal

Kevin Hostler

Current status of supervised learning

- This model chooses the most optimal action given a board state for the given agent. Which leads to the impressive turn completion time and never a time out situation at 50.
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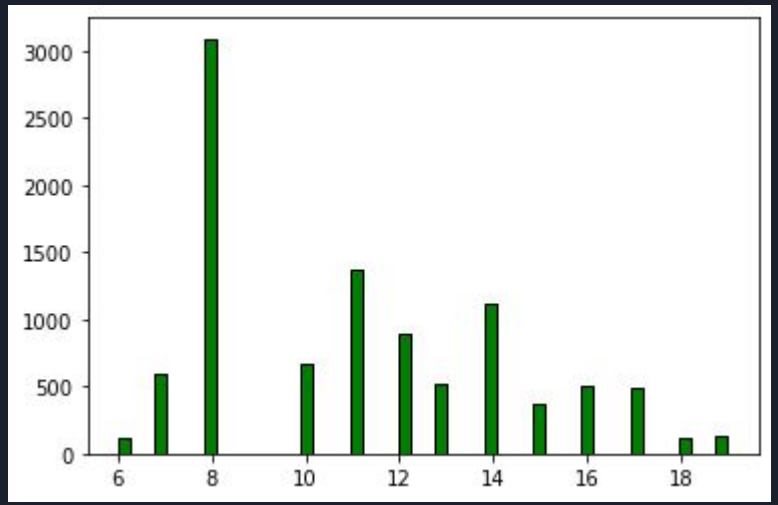

Current RL Status

- example
  - Out of 10,000 games the game was completed to goal 247 times and time out at 50 turns 9753 times
  - When increased to 100 turn timeout this changes to 588 goal completion with 9412 being times out
- Problems?
  - The agents seem to be getting stuck when the blocks they need are in the center, or when there are orphan blocks in the center that need to be taken by the opposite agent of origin.
    - I should be able to iron these out in the next day or so as I believe it to be an issue that needs to be flagged by a boolean that then changes to the motive for a move decision
- Base line
  - The current goal state completion percentage is too low to be considered a baseline, When I get the agents to become unstuck this will change. As I didn't count partial wins if the board is mostly correct which most of the time outs were 50% complete

*changes to experiment with

- RI
  - Motive percentages
  - Starting percentage chance of a decision
  - Turn time out length
  - Number of iterations
  - Cooperation encouragement

Next 3 week plan

- 7/15/21 - 7/17/21
  - Finish up the baseline for the rl model as I don't quit like what it is yet.
- 7/18/21- 7/24/21
  - Experiment with parameters to see how the RL model behaves based on different parameters.
  - Possible for next 2 weeks
- After experiments
  - Write paper hopefully

Future work

- Board size increase
- Color of choice increase
- More complex dictionary