

CS 7631 Final Project Midterm Report – Deep Q ASCII Soccer

Code available at https://github.com/ckchow/deep_ascii_soccer

Overview

There has been some slip in the project schedule. Q learning is taking a little longer to implement than expected, but should be doable with a couple more days of hard work.

Completed Tasks

I have finished integrating a reinforcement learning framework (RLGlue) with the existing ASCII soccer game so that rewards and actions can be communicated between the game environment and the team planner. The team planner is written in Python, which is much faster to write and debug than C.

Found a good implementation of deep convolutional networks (Lasagne) that will facilitate simple and fast experimentation with network architecture parameters (number of hidden layers, layer sizes, nonlinearities, regularization, etc.)

Found and copied a lot of deep Q learning scaffolding code from another project (<https://github.com/snugglelamb/BroadMind>).

Remaining Work to Next Milestone

Document RLGlue and Python environment install.

Finish writing interface code between the output of the Lasagne neural network code and qnn.py.

Train and run team against a variety of opponents.