

43008: Reinforcement Learning

Assignment-3, Part-A: Project Proposal

Project Title: UTS Fifa 25

Team Name: can I kick it?

Team Members:

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Abstract (~200 words):

We would like to control a human like agent and make him learn how to walk, run, kick an object so later on he can learn how to play soccer. We will start by creating the agent in human shape. Then create a simple environment for him to walk, run. Once that is done successfully, we can then create an object like a ball so the agent now can walk to the object with a reward based on time to get to the object. The faster he gets there the more reward. The reward will be between 0.01 and 1. Once that is complete then the agent will be placed in a new environment to learn how to kick the ball with a different goal objects that appear randomly within distance of close, medium, and far distance. The goal here is the agent to kick the ball and get it into the goal object. So the agent can learn how to kick soft, medium and super strength. Then finally multiply the agent by 2 with one ball object and 2 goal objects. And make the agent and their own goal in the same color and the main goal here is each agent should learn how to walk and run to get the ball and kick it into the other goal. Upon completion we multiply each agent by 11 to create a team of 11x11 to play against each other. With no goalie to catch the ball. At the very last step we will do the above but to train a goalie to catch the ball and protect his own goal and team. Various rewards will be throughout the training.

Dataset Details (If known, optional):

no dataset needed

Additional support required (if any):

setting up the environment.