

A.I. Starcraft Project

1- Description of your understanding of the problem:

The problem requires us to create a learning agent using deep learning with python that is able to play a game called Starcraft and win it. The agent will train on the model that is generated by playing the game, and then will be able to win the game.

2- A discussion of your agents structure:

Our agent is a bot that we create using Python-sc2 and give it attributes like race and then teach it to play against easy, medium, and hard computer players.

3- A discussion of your agents logic / strategy:

The strategy of our agent is evolutionary algorithms. With an evolutionary algorithm, our bot can play multiple time against varying difficulties and only take into the training set the winning algorithm, and the loser algorithm is forgotten.

4- A discussion of how you arrived with your latest bot version and what you learned on the way:

After enabling our bot to create workers, instruct them, attack and defeat other players, we started using deep learning to teach our bot to “think” to be able to beat hard opponents and perform advanced tasks such as scouting. We trained our bot multiple times using evolution algorithm strategy in order to achieve a higher winning probability.