

Reinforcement Learning Homework Sheet 2

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1 DQL: empty goal

We train the RL gfootball empty goal setting, using Adam optimizer, learning rate of 0.001.

At the heart of the DQL model, we build a 2-layers Neural Net, with 24+48 nodes and Relu activation. We update it at every step after updating the Q-value for given state-action pair.

The model is compiled in Google Colab.

To test learning, we examine the loss function. We plot the loss function as function of episodes, see figure 1. We also plot the number of steps before “done” in figure 2, and rewards as a function of episodes.

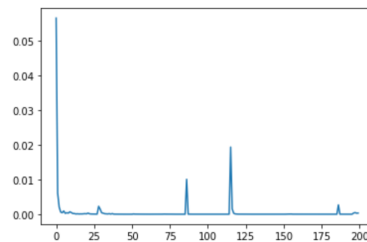


Figure 1: DQL model training loss.

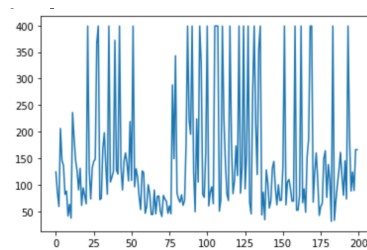


Figure 2: DQL model steps before “done”.