Coding Assignment 5

EC 400

Due on Nov 17, 2021

Setup. Download the Codding Assignment 5 files from blackboard and paste them into the homework folder from the last assignment. Choose to replace the existing files you have.

Assignment. *You can complete this assignment in a group of two. You can turn one assignment in for two people.* Write the definition of the planner class in the file planner.py. On initialization, the class should set the variable self_conv to a pytoch Sequential object implementing a neural network.

Having written this code, you write

```
python3 -m train
```

to train your neural network. Once this is done, you can write

```
python3 -m planner [TRACK_NAME] -v
```

to have your neural network drive from vision data only on a track. Note you can also put multiple tracks. For track name, plug in "zengarden," "lighthouse," "hacienda," "snowtuxpeak," "cornfield-crossing," "scotland." You should complete the first two under 50 seconds, snowtuxpeak under 60, and the rest under 70 seconds.

Suggestions:

- Using convolutional layers followed by ReLUs works.
- Start early. Training can take several hours on my five-year old Macbook air. If you don't have access to a fast computer, you are limited in how many runs you can do until this is due.
- Watch out for a bug that turns all your images into black squares. On my mac, this appeared the second time I ran the code on Anaconda Spyder. Repeatedly restarting solved it on my end.