Prediction of Steering and Throttle Commands for Self - Driving

Shivani Reddy Rapole srapole@seas.upenn.edu
Shreyas Ramesh shreyasr@seas.upenn.edu
Vasanth Kolli vasanthk@seas.upenn.edu

README

All files:

Google Drive Link: https://bit.ly/3yGrVeu

Packages Installed:

```
click==8.0.3
colorama==0.4.4
cycler==0.11.0
dnspython==2.1.0
eventlet==0.24.1
Flask==2.0.2
Flask-SocketIO==3.3.2
fonttools==4.28.4
greenlet==1.1.2
itsdangerous==2.0.1
Jinja2==3.0.3
kiwisolver==1.3.2
MarkupSafe==2.0.1
matplotlib==3.5.1
monotonic==1.6
numpy==1.21.4
opencv-python==4.5.4.60
packaging==21.3
Pillow==8.4.0
pyparsing==3.0.6
python-dateutil==2.8.2
python-engineio==3.5.1
python-socketio==3.1.2
six==1.16.0
torch==1.10.1
torchvision==0.11.2
typing_extensions==4.0.1
Werkzeug==2.0.2
```

Install Car Simulator

Install Udacity Car Simulator - https://github.com/udacity/self-driving-car-sim (We installed Version 1)

Run the model

- Download the driving_sim.zip file from the google drive folder and unzip it.
- Navigate into the driving_sim folder, should observe drive.py and model.pth files along with other files.
- Create python virtual environment in this this directory and install all the dependencies
  OR
  Install dependencies to the global python interpreter.
- Then while you are in the driving_sim directory, run the following command on CMD prompt/Terminal:
  (might have to activate the python environment if a python virtual environment was created)

```
python drive.py model.pth
```

- Start up the Udacity simulator. Choose the scene on the left and press the Autonomous Mode button.
- Should observe the vehicle drive autonomously.

For any supplemental information (if necessary), refer to “README.txt” file in the Google drive link