Homework 5 RL **Student Name: _____**

AuE 8930: Computing and Simulation for Autonomy
Instructor: Prof. Bing Li, Clemson University, Department of Automotive Engineering

* Refer to Syllabus for homework (late) submission, grading and plagiarism policies;
* Submission due Mon. 11/28/2021 11:59 pm via Canvas, include:
  - This submission should be as the forked git repo link in your own git website. You update directly in your forked git repo, such as in the .md file or code if any changes.
  - You only submit a text file with the link directing to your forked/cloned git repo.

Baseline framework: https://github.com/eleurent/highway-env
Document guidance: https://highway-env.readthedocs.io/
Platform: for this homework, you need a GUI for agent training/running visualization,
As shown in this baseline, you can use *Google Colab* notebook as computing platform, or if you prefer to setup in your own computer with Python environment.
Installation for Ubuntu/Windows:
https://highway-env.readthedocs.io/en/latest/installation.html

Go over the details of above highway-env framework and guidance documents.

Fork/Clone the baseline framework all code to your own git (5 points)

Git Fork: https://docs.github.com/en/get-started/quickstart/fork-a-repo

Hands-on the 'SB3's DQN' example of '*Training an agent*' (20 points)

https://highway-env.readthedocs.io/en/latest/quickstart.html

- Update your own visualization and results in: scripts/sb3_highway_dqn.ipynb

Select one of the driving policies (DQN or others) baseline code from:

'*Examples on Google Colab*': https://highway-env.readthedocs.io/en/latest/quickstart.html
Or: https://github.com/eleurent/highway-env/tree/master/scripts
(some notebook links are not correct. Nevertheless, these notebooks are on above webpage)

- Get it running, trained and testing (20 points)
- Add visualization for training (15 points)
- Add visualization for testing (15 points)
- Add your own comments in your selected baseline code as possible (25 points) Such as: the code pipeline, function features, code/results comments, etc