DTE2502 – Neural Networks :: Graded Assignment 02

Tasks in the assignment

An overview of the task is explained in the (`DTE-2502_wk11lec01`) lecture. You will be implementing `DeepQLearningAgent` (30 points). Similar to GA01 a code base in Tensorflow (TF) is available at (https://github.com/DragonWarrior15/snake-rl) you will be converting it to PyTorch

- You are expected to replicate the code from `agent.py` in PyTorch
- You can modify the rest of the code base as required, but ideally the amount of changes should be minimal.
- Working with `github` is highly encouraged as you will be coding an entire project.
- Also `github` provides a time stamp for your work in case you have some problems or need some extension.
- Clone your code base from the original git and make changes as you see fit.
- The latest model version to be used is 17.1, clean the code base to remove any files/code that is not used in the assignment.

Expected outcome

- The expected outcome should be similar to those mentioned in the original `github` page. You have full freedom to make any changes required to creating a running project. Please remember to comment your code well.
- Visualize your final policy the way shown in the original `github` page.

Final words

- This assignment will be using a CNN as function approximators to learn/imitate various algorithms/steps already covered in the lectures. However the environment you are trying to play your agent against is different.
- The libraries and modules created in the `conda` environment for GA01 should be sufficient to execute this task.
- Feel free to use more libraries for your study and experimentation. Try out an environment with Keras + TF as suggested in the original GitHub to understand the original TF code. It will help your learning.
- However the final code submitted will be tested and graded in the `conda` environment provided in the GA01 `yaml` file and as such should not have any more dependencies. In case you have some special dependencies mention them explicitly in a `README` file under the section **`Additional dependencies`**.
- The models should take slightly < 4GB when running on the GPU. This should run in all the systems mentioned. Use the tips from GA01 to test your system on smaller runs.
- Indicate all the steps required to run your code in the beginning of your `README` under the heading **`Running Graded assignment 02`**.
- Provide a link to your final `github` page.

Deadline

- The deadline for submission is 29-Nov, 23:59.
- As all the lectures have ended in case of any help or extensions required in this task, please mail me directly.