UDACITY

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DISCUSS ON STUDENT HUB

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REVIEW

CODE REVIEW

HISTORY

Requires Changes

5 specifications require changes

Dear Udacian,

Great job getting acquainted with the Deep Q Network algorithm and successfully implementing it to solve the environment. 😄

There are some rubric points which do not meet the specifications. I have given explanation for every point. Please go through the review, make the specified changes and I am sure the next submission would meet the specifications. Looking forward to the next submission eagerly. All the best!

I would suggest you to go through Deep Reinforcement Learning for Self Driving Car by MIT. You'd get to know more about reinforcement learning algorithms in broader and real-world perspective and, more importantly, how to apply these techniques to real-world problems.

Training Code

The repository (or zip file) includes functional, well-documented, and organized code for training the agent.

Required

- The `model.py` file is missing in the submission.
- It is requested to submit it in order to execute the code.

The code is written in PyTorch and Python 3.

Awesome

The code is written in PyTorch and Python 3.

Lately, PyTorch and TensorFlow happen to be most extensively used frameworks in deep learning. It would be good to get some insight by comparing them, please see the following resources:

- Sebastian Thrun on TensorFlow
- PyTorch vs TensorFlow—spotting the difference
- Tensorflow or PyTorch : The Force is Strong with which One?

The submission includes the saved model weights of the successful agent.

Required

- It is requested to submit the saved model weights of the successful agent.

README

The GitHub (or zip file) submission includes a `README.md` file in the root of the repository.

Awesome

- Great work documenting the project details and submitting the README file.

The README describes the the project environment details (i.e., the state and action spaces, and when the environment is considered solved).

Awesome

- Readme file describes the project environment details properly.
- Information about the state and action spaces, and when the environment is considered solved has been provided.

The README has instructions for installing dependencies or downloading needed files.

Awesome

- Great work providing the all the necessary instructions to download the environment.

Required

- It is requested to provide the instructions to download the dependencies, to set up the python environment.
- You may refer to the DRLND GitHub repository.
- These instructions are necessary to complete the project.

The README describes how to run the code in the repository, to train the agent. For additional resources on creating READMEs or using Markdown, see here and here.

Awesome

- Great work providing necessary instructions to run the code.

Report

The submission includes a file in the root of the GitHub repository or zip file (one of `Report.md`, `Report.ipynb`, or `Report.pdf`) that provides a description of the implementation.

Awesome

- Report for the project with all the details of the implementation has been provided in the submission.

The report clearly describes the learning algorithm, along with the chosen hyperparameters. It also describes the model architectures for any neural networks.

Awesome

Great work providing the details of the implemented agent. Details of the learning algorithm used, and architectural information of the deep learning model have been provided.

- Good decision to choose DQN algorithm for the discrete action space problem.
- Good work including model architecture in the report.

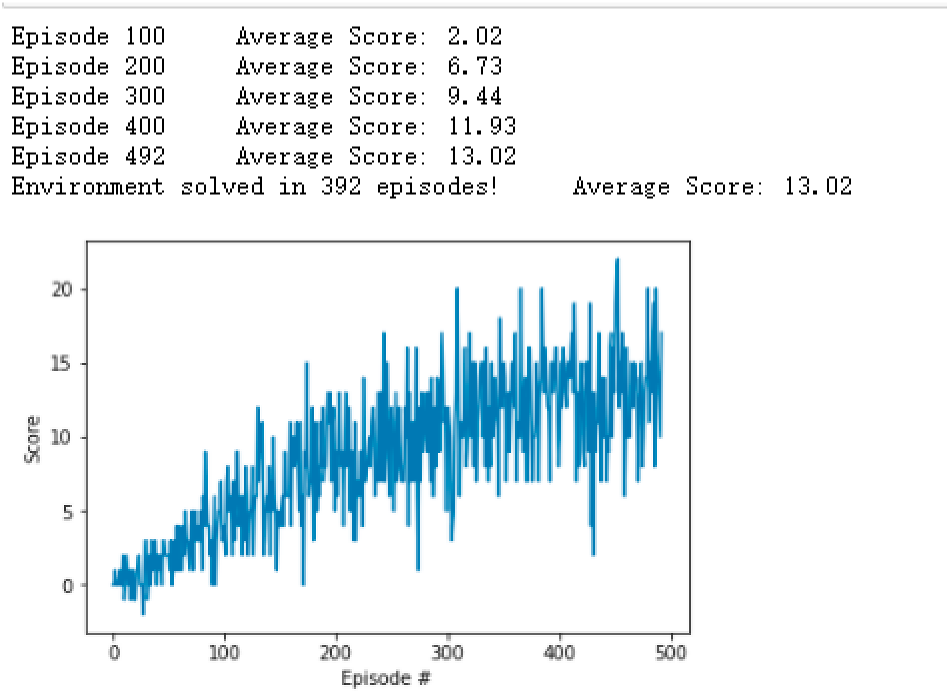
Required

- It is requested to provide the hyperparameters used to train the agent in the report.

A plot of rewards per episode is included to illustrate that the agent is able to receive an average reward (over 100 episodes) of at least +13. The submission reports the number of episodes needed to solve the environment.

Awesome

- Discussion for the rewards is provided in the report.
- The rewards plot seems to be good and average score of +13.02 is achieved in 492 episodes.



```
Episode 100     Average Score: 2.02
Episode 200     Average Score: 6.73
Episode 300     Average Score: 9.44
Episode 400     Average Score: 11.93
Episode 492     Average Score: 13.02
Environment solved in 392 episodes!     Average Score: 13.02
```

Reinforcement learning algorithms are really hard to make work.
But it is substantial to put efforts in reinforcement learning as it is close to Artificial General Intelligence.
This article is a must read: Deep Reinforcement Learning Doesn't Work Yet.

The submission has concrete future ideas for improving the agent's performance.

Required

- It is requested to provide some ideas for improving the agent's performance in future.

RESUBMIT

DOWNLOAD PROJECT

Best practices for your project resubmission

Ben shares 5 helpful tips to get you through revising and resubmitting your project.

Watch Video (3:01)

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