UDACITY

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Continuous Control

REVIEW | CODE REVIEW | HISTORY

Meets Specifications

Udacity Student

You have done an amazing job in this project and it will open a huge door in your future work. Reinforcement Learning is a very important topic and the future is even more challenging. It is important not only for Self-Driving Cars for example, but also in the trading market, research positions and the Game market.

As a reference, I would like to share some extra material to boost your learning:

Reinforcement Learning, Fast and Slow
Deep RL Explanation about SVG, DDPG, and Stochastic Computation Graphs
DDPG Explained

Looking forward to review more projects from you! 😄

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START

Training Code

✓ **The repository includes functional, well-documented, and organized code for training the agent.**

Training Code

Code Quality

Great job! 😄

Your code is functional and well-documented. You can find more useful information reading the following articles:

Google Python Style Guide
Python Best Practices: 5 Tips For Better Code

✓ **The code is written in PyTorch and Python 3.**

Training Code

Python 3 & PyTorch

Awesome! 😉

Your code is written in PyTorch and Python 3! I would like to reinforce the importance of the Deep Learning framework and how you can choose among all posibilities.

PyTorch and Tensorflow are widely used and very well documented. I suggest some readings to buster your learning path:

TensorFlow vs. Pytorch
PyTorch vs TensorFlow — spotting the difference

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

Training Code

Weights

Great job!

The weights are saved!

README

✓ The GitHub submission includes a `README.md` file in the root of the repository.

README.md

Readme in the Root of the repository

Cool! 😄

You have the README.md in your repository.

It is an industry standard practice and helps to make the repository look professional. It make easy for the general audience to reuse the code.

A README file shows:

- Why the project is useful,
- What to do with the project, and
- How to use it.

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

README.md

Project Description

Great! 😉

Your README.md describes the project. As we are dealing with a Reinforcement Learning project, a good description should include:

1. Environment Overview
2. Reward System
3. Observation Space
4. Action Space

It can also include some images of the environment to give a better idea to the audience.

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

README.md

Dependencies

Good job! 😁

Good job! 😄

Your Readme has the installation steps to run 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.

README.md

Running the project

Great!

Report

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

Project Report

Report File

Great job in your report file! 😉

It contains important steps of your project like the explanation of the algorithm you used, the plot of the rewards and the ideas for future work!

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

Project Report

Learning Algorithm & Hyperparameters

Awesome! 😄

The project describes not only the algorithm, but the hyperparameters chosen and the model architecture.

✓ A plot of rewards per episode is included to illustrate that either:

- *[version 1]* the agent receives an average reward (over 100 episodes) of at least +30, or
- *[version 2]* the agent is able to receive an average reward (over 100 episodes, and over all 20 agents) of at least +30.

The submission reports the number of episodes needed to solve the environment.

Project Report

Reward

Great! 😄

You have included in your project the plot of the reward to illustrate your results.

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

Project Report

Future Work

Your report also include ideas for future work! Great job!

Your report also include ideas for future work! Great job!

Some other important points for future work might include:

1. You can use more time to tune the hyperparameters and optimize the NN
2. Test other algorithms like PPO

DOWNLOAD PROJECT

RETURN TO PATH

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