

Operation manual for our code

1. To see a quick result curve on Jupyter:
First, log into <http://10.15.89.41:30303/notebooks/REPER-on-DQN/REPER-Pri-Random.ipynb> via password 123. (If you fail to connect to the server, please contact chenzhuo@shanghaitech.edu.cn and we will open the port for Jupyter, because we cannot guarantee that the server is always in service.)
Second, to compare the results with random sampling, prioritized sampling and our REPER model you might want to adjust *sampling_method* to be one of the three choices.
Then, click "Cell" -> "Run All", and the curve will show up at the end.

Sampling Method

```
In [742]: sampling_method = 'REPER'
          balancing_param = 0.10
          |
          | sampling_method = 'PER'
          | sampling_method = 'random'
```

Figure 7: Light weight training process

2. To train 2 players playing Pong Game:
First, enter the folder REPER-on-DQN/framework.
Then run

```
$ python main.py --sample_method=random
```

to train an agent based on random sampling

run

```
$ python main.py --sample_method=PER
```

to train an agent based on simple prioritized sampling
run

```
$ python main.py --sample_method=REPER
```

to train an agent based on REPER model
Note that the training process may take about 4 hours on a machine with CUDA.

3. Prerequisites:

Name	Version	Build	Channel
gym	0.17.2	pypi_0	pypi
gym-wrappers	0.1.0	pypi_0	pypi
pytorch	1.4.0	py3.6_cuda9.2.148_cudnn7.6.3_0	pytorch
torchvision	0.5.0	py36_cu92	pytorch
numpy	1.15.4	pypi_0	pypi
opencv-python	4.2.0.34	pypi_0	pypi

Table 1: Prerequisites