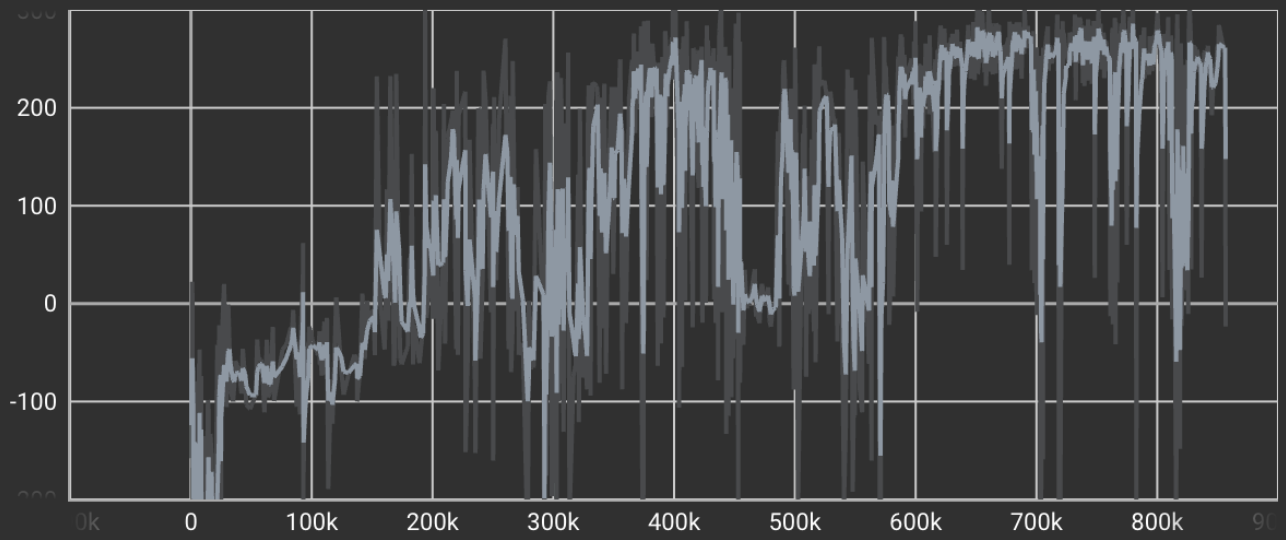


# Deep Learning Lab5

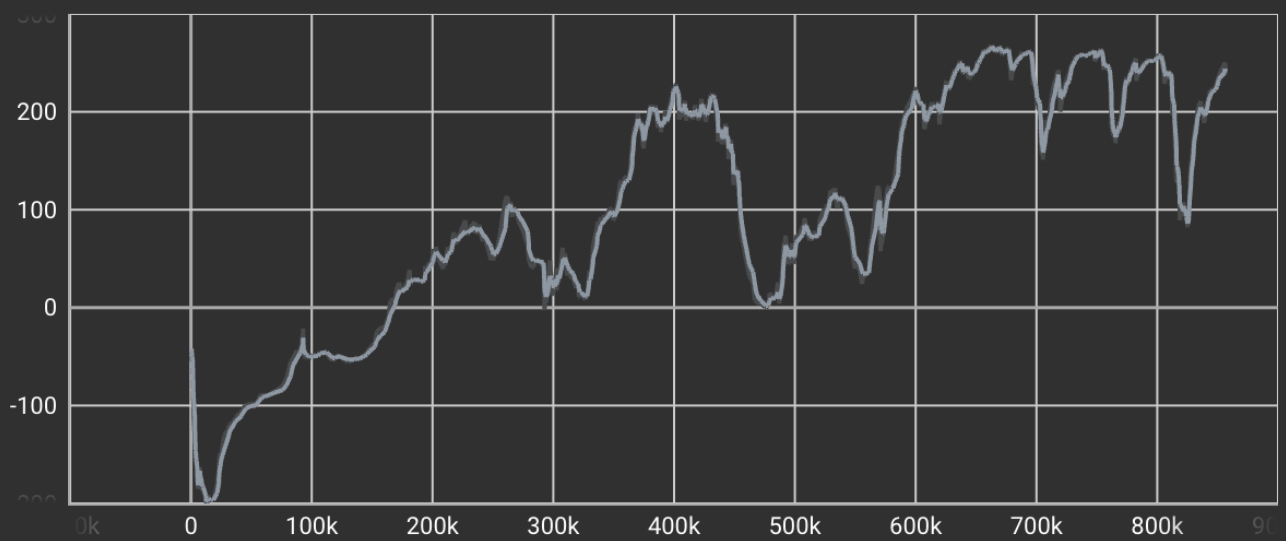
## DQN

```
shiheng@shihengdeAir:~/Documents/Github/Deep_Learning/Lab5
~/Doc/G/Deep_Learning/Lab5 main ?21
> python dqn.py -d mps --test_only
/Users/shiheng/Library/Caches/pypoetry/virtualenvs/dlp-lab-44WoctRi-py3.9/lib/python3.9/site-packages/gym/logger.py:30: UserWarning: WARN: Box bound precision lowered by casting to float32
  warnings.warn(colorize('%s: %s'%( 'WARN', msg % args), 'yellow'))
Start Testing
Episode 0: Total Reward = 250.2683047931391, Length = 173
Episode 1: Total Reward = 277.13152653945417, Length = 225
Episode 2: Total Reward = 234.98634210939315, Length = 307
Episode 3: Total Reward = 213.23853809918862, Length = 277
Episode 4: Total Reward = 307.82558591574707, Length = 242
Episode 5: Total Reward = 223.7316185868583, Length = 229
Episode 6: Total Reward = 178.94815042077374, Length = 164
Episode 7: Total Reward = 289.86567390384926, Length = 210
Episode 8: Total Reward = 258.41151490515836, Length = 146
Episode 9: Total Reward = 153.99444147427226, Length = 1000
Average Reward 238.84016967478337
~/Doc/G/Deep_Learning/Lab5 main ?21
>
```

Train/Episode Reward

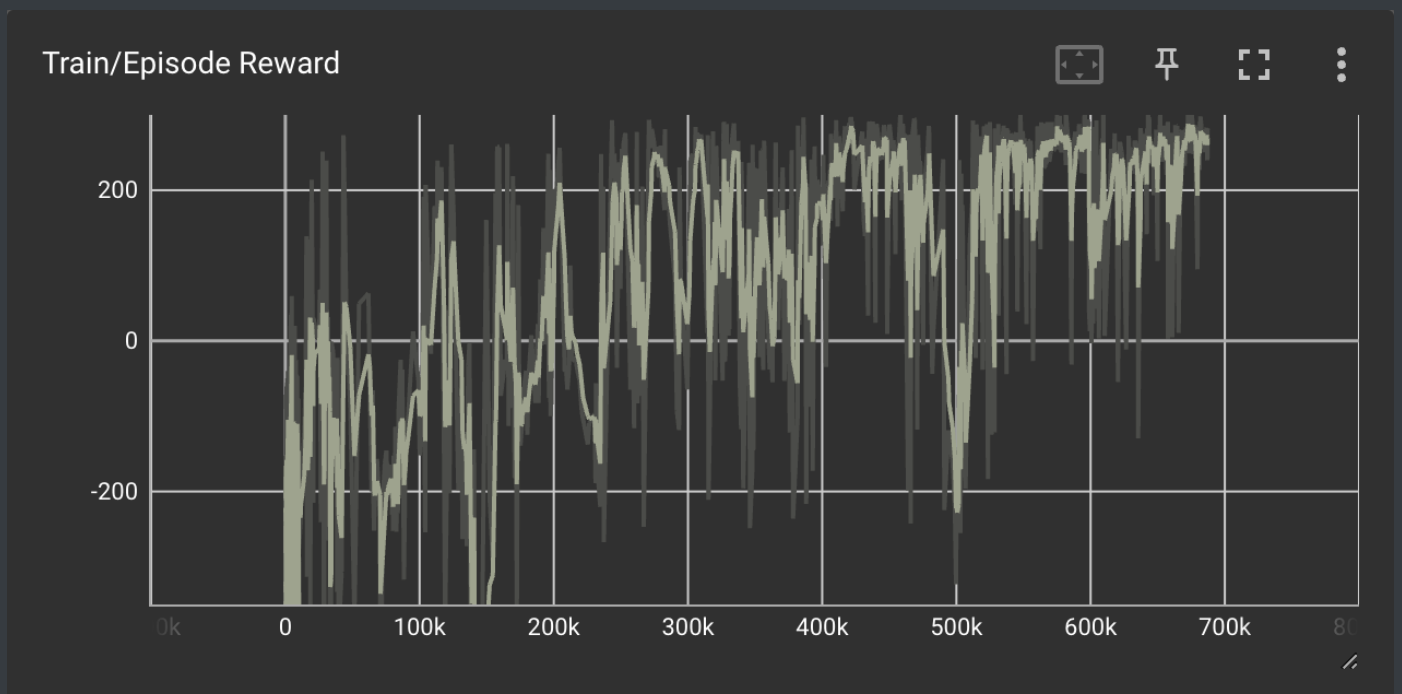


Train/Ewma Reward

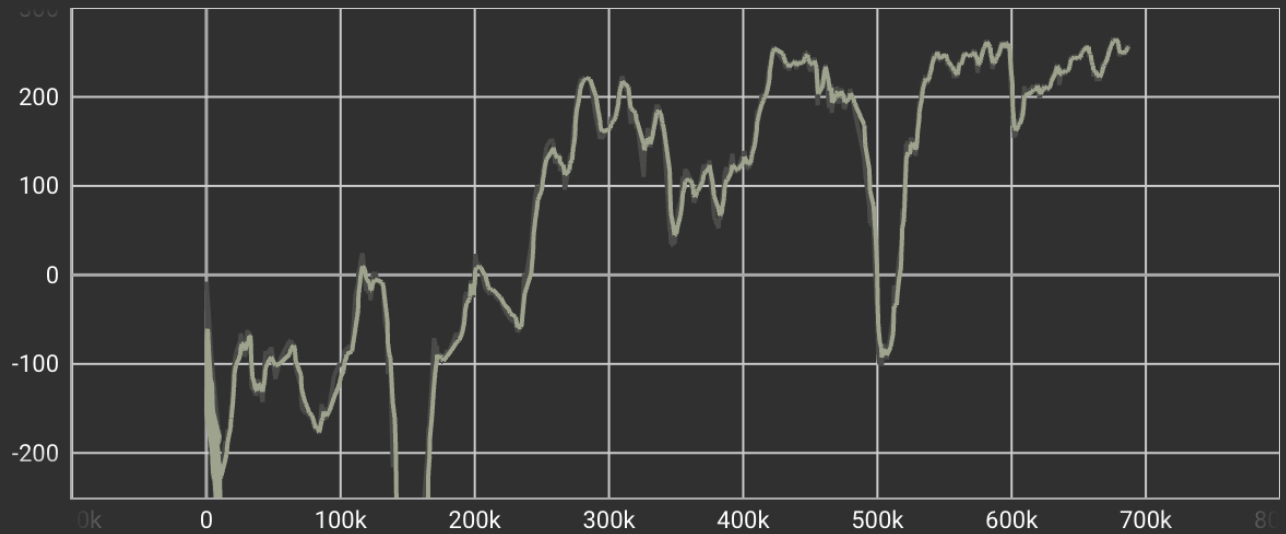


DDPG

```
shiheng@shihengdeAir:~/Documents/Github/Deep_Learning/Lab5
~/Doc/G/Deep_Learning/Lab5 main ?21
> python ddpg.py -d mps --test_only
/Users/shiheng/Library/Caches/pypoetry/virtualenvs/dlp-lab-44WoctRi-py3.9/lib/python3.9/site-packages/gym/logger.py:30: UserWarning: WARN: Box bound precision lowered by casting to float32
  warnings.warn(colorize('%s: %s'%( 'WARN', msg % args), 'yellow'))
Start Testing
Episode 0: Total Reward = 211.22662022194658, Length = 161
Episode 1: Total Reward = 252.6998753499129, Length = 246
Episode 2: Total Reward = 253.03950365193242, Length = 219
Episode 3: Total Reward = 246.78117446413694, Length = 343
Episode 4: Total Reward = 252.36044665113738, Length = 205
Episode 5: Total Reward = 265.039506436402, Length = 197
Episode 6: Total Reward = 254.4549181570463, Length = 254
Episode 7: Total Reward = 277.06677773998797, Length = 253
Episode 8: Total Reward = 166.63048444439048, Length = 1000
Episode 9: Total Reward = 36.045668562113406, Length = 120
Average Reward 221.53449756790064
~/Doc/G/Deep_Learning/Lab5 main ?21
>
```



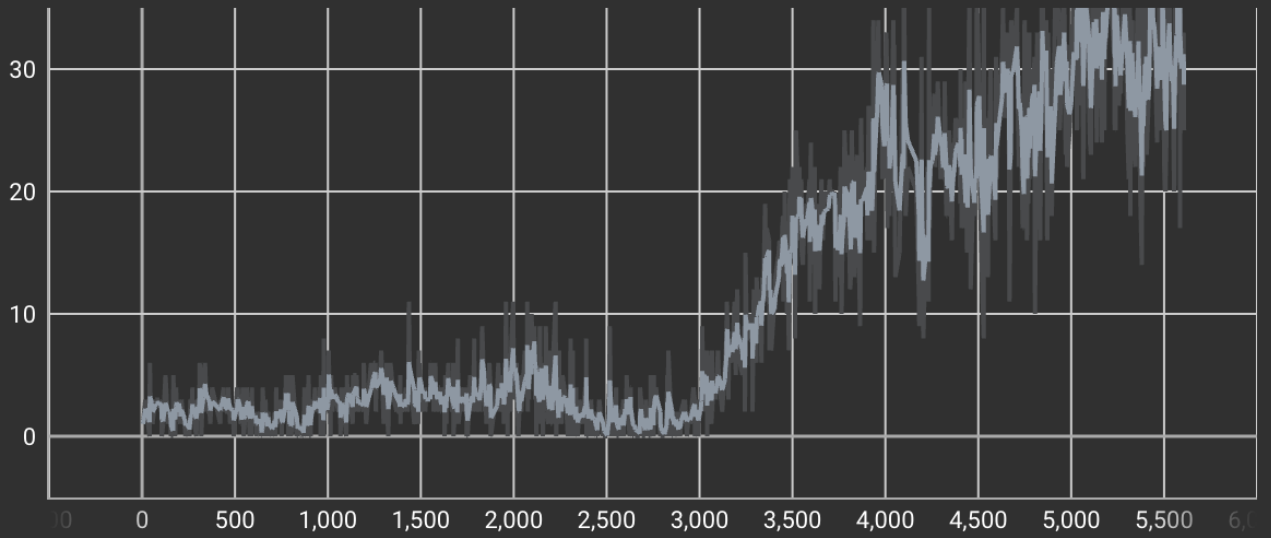
Train/Ewma Reward



## DQN breakout

```
pp037@ec037: ~/Deep_Learning/Lab5
pp037@ec037:~/Deep_Learning/Lab5$ xvfb-run --auto-servernum --server-num=1 python dqn_breakout.py --test_only -tmp ckpt/dqn_3000000.pt
Start Testing
episode 1: 102.00
episode 2: 247.00
episode 3: 213.00
episode 4: 239.00
episode 5: 305.00
episode 6: 280.00
episode 7: 213.00
episode 8: 213.00
episode 9: 286.00
episode 10: 213.00
Average Reward: 231.10
pp037@ec037:~/Deep_Learning/Lab5$
```

Train/Episode Reward



Train/Ewma Reward

