



Selected Topics in RL

Lab 0

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Basic Rules

- There are 4 labs with demo + 1 project.
- Demo on Monday evening.
- Demo pipeline:
 - Run model testing.
 - Explain your code.
 - Answer some questions.
- **Plagiarism is prohibited.**
- We will open a discussion forum on E3 for each lab and project.
- If you have any problems, please contact TA with email.
 - Use E3 email system.
 - Send emails to all TAs. (except the lab questions)
 - Clarify your problem.



LAB & Demo Requirements

- Upload your work to E3.
 - Code and report (.pdf).
 - Zip all files in one file and name it like
DL_LAB1_yourstudentID_name.zip
 - E.g. RL_LAB1_311551043_廖唯辰.zip
- Do not send it to TA.
- Do not upload your model weight to E3.
- Save your model weights in your machine for demo.



LAB & Demo Requirements

- Lab score:
 - Lab report score + Lab demo score.
 - The criterion details will be listed in each lab specification.
- Delayed hand in:
 - Hand in before the end of this semester. (score * 0.8)
- Please do your assignment as early as possible.



Lab 0

- Build the environment of gym and pytorch.
- Run the sample code given in E3.
- Don't need to hand in anything in this lab.

```
import numpy as np
import torch
import torch.nn as nn
import gym

env = gym.make("ALE/Enduro-v5", render_mode="human")

# if you don't have GUI, you can use the following code to record video
# env = gym.make("ALE/Enduro-v5", render_mode="rgb_array")
# env = gym.wrappers.RecordVideo(env, 'video')

observation, info = env.reset()

total_reward = 0
for _ in range(100):
    action = env.action_space.sample()
    observation, reward, terminated, truncated, info = env.step(action)
    total_reward += reward
    # disable render() when you are recording video
    env.render()
    if terminated or truncated:
        observation = env.reset()

print("Total reward: {}".format(total_reward))
env.close()
```



Lab 0 Recommended Package Version

- python==3.9.17
- pytorch==2.0.1
- gym==0.26.2