

Group05: EEC4400 Assignment Report

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Introduction

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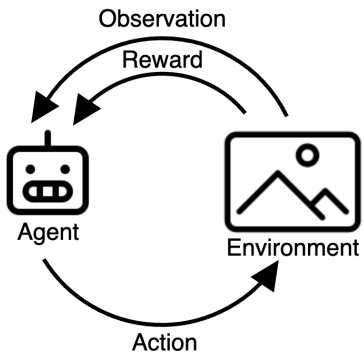


Figure: Agent Environment

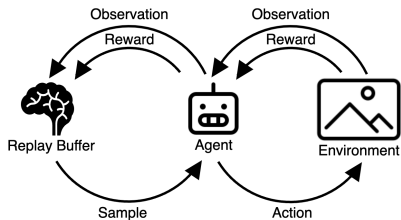


Figure: DQN Agent

Project Directory Structure

```
agent
    agent_with_ddqn.py
    agent_with_dqn.py
    agent_with_nqn.py
    agent_with_qn.py
    core.py
config
    hp_alternative.yml
    hp_baseline.yml
    network.py
    train.py
model
    mlp_ddqn.py---mlp_qn.py
policy
    base.py
    ddqn.py---qn.py
pipeline.ipynb
```

Methods

Methods

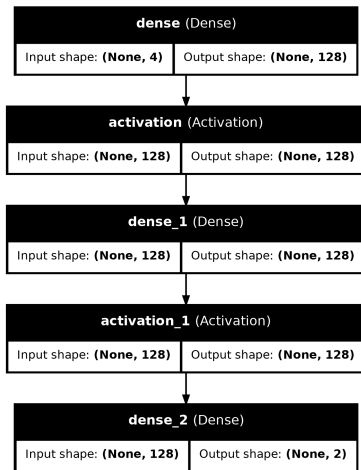


Figure: the neural network architecture

Methods

Table: Hyperparameters of the Model

Parameter	Value
lr	0.0001
epoch	1
episode	500
epsilon	1.0
epsilon_min	0.01
epsilon_decay	0.997
gamma	0.99
ba	64
target_update_freq	250
warmup_size	33550
score_uplimit	500

Methods



Figure: the raw and smoothed training reward

Methods

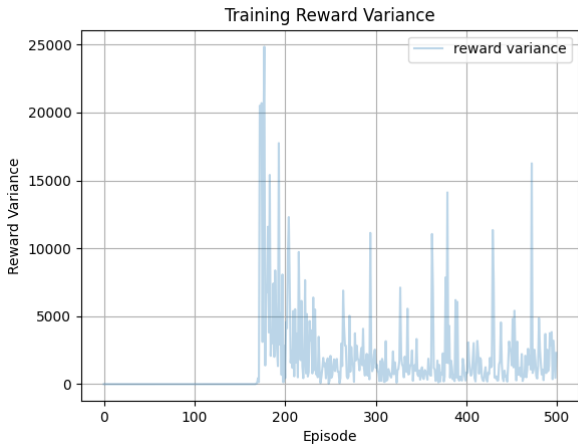


Figure: the variance of raw reward

Conclusion

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- 1 The training process seems like not stable
- 2 try to not use fit, and replace it by GradientTape

Thank you!