

Level Up!

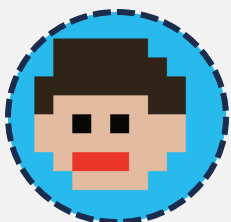
강화학습을 통한

ATARI 게임 AI 구현



GAME START!

# 팀원소개



이원호

귀여움



잘생김



센스



김형동

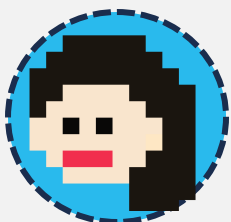
성실



멋짐



센스



이유리

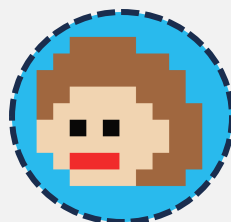
매력



미모



분위기 메이커



김희아

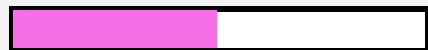
응원



개그



짱짱



# 목차

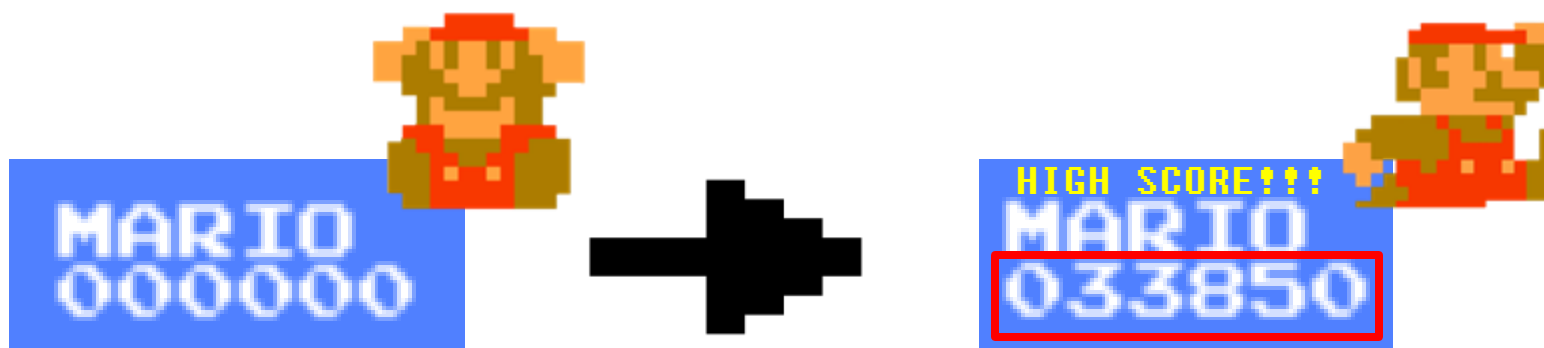
- Hi! 1. 강화학습의 배경
- Hi! 2. 강화학습의 구조
- Hi! 3. DQN/DDQN
- Hi! 4. 결론

# Chapter

## 01

### 강화학습의 배경

#### 강화학습의 목적



# Chapter

## 01

### 강화학습의 배경

**U function** / Q function



# Chapter

## 01

강화학습의 배경

U function / Q function



JUMP?



WALK?



# Chapter 01

강화학습의 배경

Q learning

EP n  
Agent

EP n+1  
Agent



# Chapter 01

강화학습의 배경

Q learning





# Chapter 01

강화학습의 배경

Q learning



# Chapter 01

강화학습의 배경

Q learning



# Chapter 01

강화학습의 배경

Q learning



# Chapter

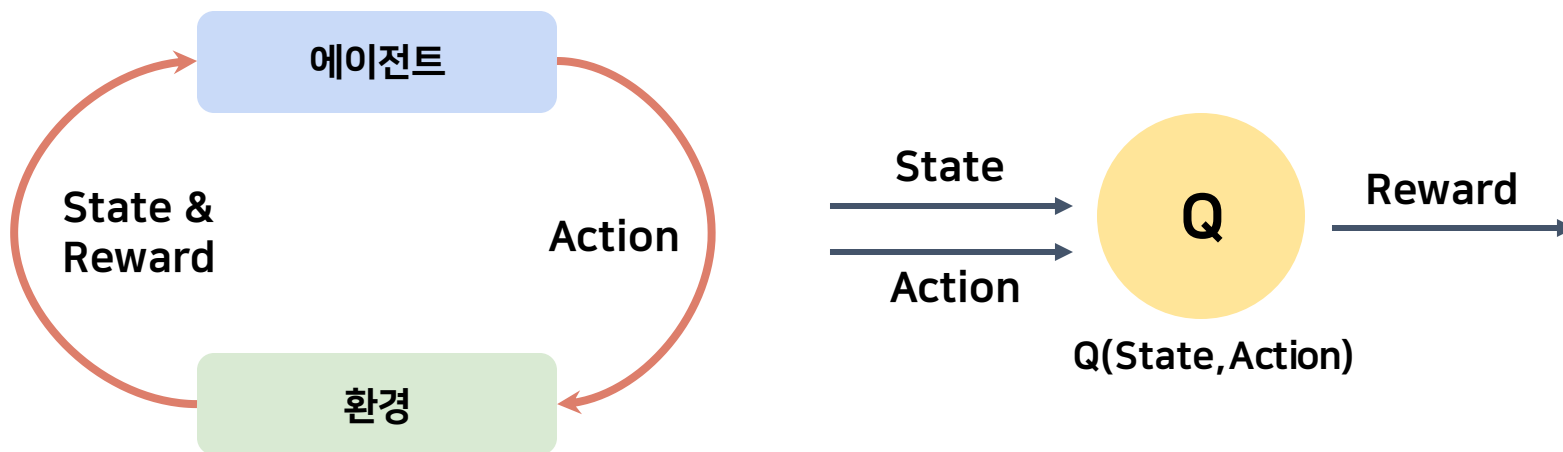
02



강화학습 구조,  
참 쉽죠?



## ▶ 강화학습 구조



# Chapter

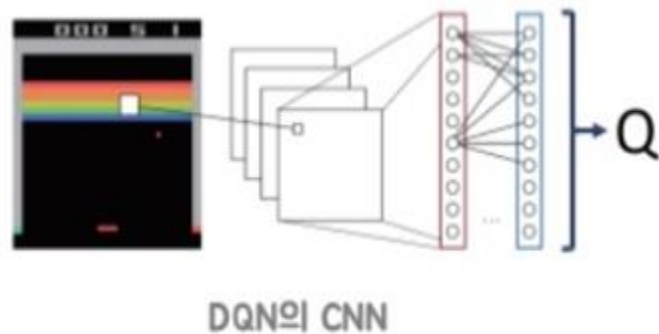
03



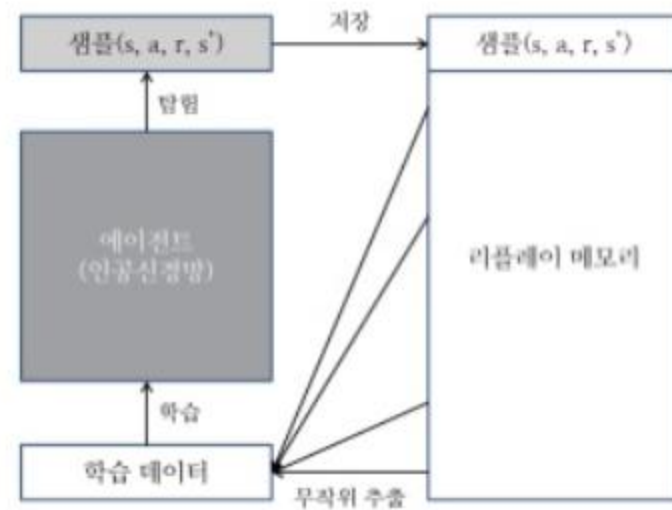
딥러닝 + 강화학습!



## ▶ DQN



DQN의 CNN



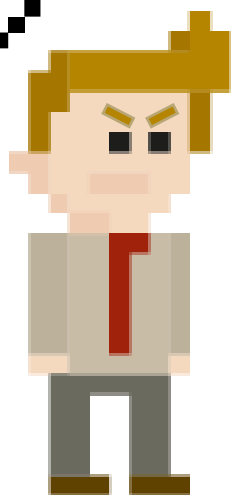
# Chapter

03

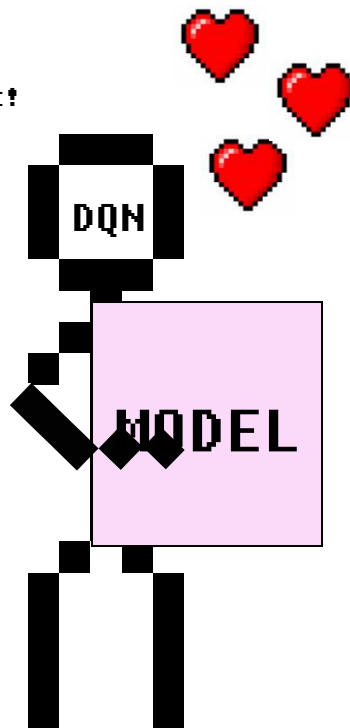


## ▶ DQN의 문제

DQN 너 개인주의야!



I'm best!



**WARNING!**

**Over  
Estimation!**

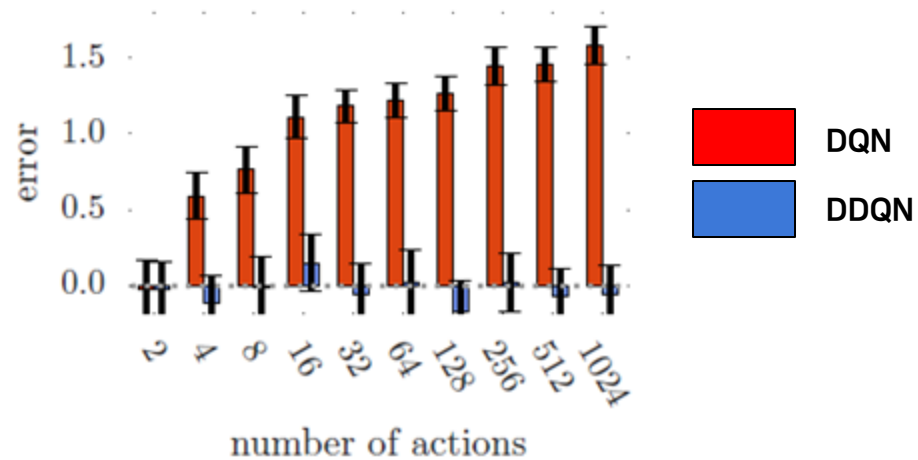
# Chapter

## ▶ DDQN

03



DDQN이 훨씬 좋군!

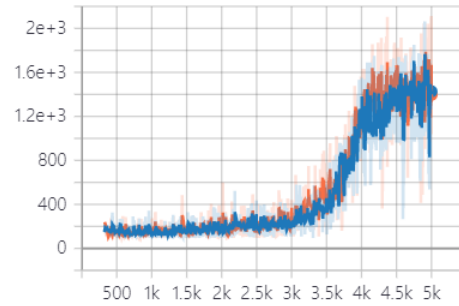


# Chapter 04

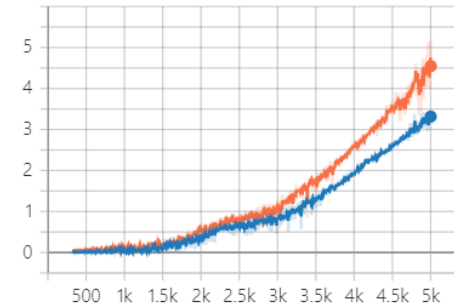
## ▶ 결론

✓ ○ dqn  
✓ ○ ddqn

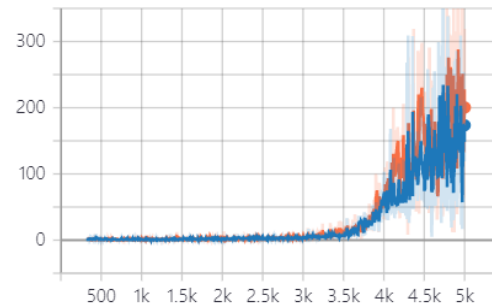
Duration/Episode  
tag: Duration/Episode



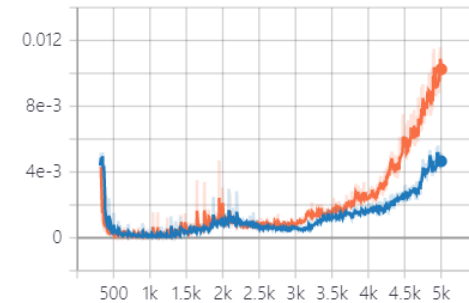
Average Max Q/Episode  
tag: Average Max Q/Episode



Total Reward/Episode  
tag: Total Reward/Episode



Average Loss/Episode  
tag: Average Loss/Episode





# Chapter 04

▶ 결론



발표 들어주셔서 감사합니다!

Thank you!

▶ GAME over!!