

Reinforcement Learning

나는 강화학습으로 축구한다

Google Research와 Manchester City F.C.의
인공지능 축구 프로젝트를 대한민국에서
재조명하고 직접 구현해보는 캠프



SESSION

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VAR

Video Assistant Referee



공통점?



Customizing Football Scenario



Live



Custom Scenario

```
import os
import gfootball.scenarios
path = os.path.dirname(gfootball.scenarios.__file__)
print(path)
```

/usr/local/lib/python3.6/dist-packages/gfootball/scenarios

```
root@6a0450ee6dac:/usr/local/lib/python3.6/dist-packages/gfootball/scenarios# ls -1
11_vs_11_competition.py
11_vs_11_easy_stochastic.py
11_vs_11_hard_stochastic.py
11_vs_11_kaggle.py
11_vs_11_stochastic.py
1_vs_1_easy.py
5_vs_5.py
...
academy_3_vs_1_with_keeper.py
academy_corner.py
academy_counterattack_easy.py
academy_counterattack_hard.py
academy_empty_goal.py
academy_empty_goal_close.py ←
academy_pass_and_shoot_with_keeper.py
academy_run_pass_and_shoot_with_keeper.py
academy_run_to_score.py
academy_run_to_score_with_keeper.py
academy_single_goal_versus_lazy.py
```

`cp academy_empty_goal_close.py custom_academy_doing_laps.py`


파일복사


원본


복제본

```
apt-get install nano  
nano custom_academy_doing_laps.py
```

custom_academy_doing_laps.py

```
from . import *

def build_scenario(builder):
    builder.config().game_duration = 3000
    builder.config().deterministic = False
    builder.config().offsides = False
    builder.config().end_episode_on_score = True
    builder.config().end_episode_on_out_of_play = True
    builder.config().end_episode_on_possession_change = True
    builder.SetBallPosition(0.77, 0.0)
```

Game Duration

```
builder.SetTeam(Team.e_Left)
builder.AddPlayer(-1.0, 0.0, e_PlayerRole_GK)
builder.AddPlayer(0.75, 0.0, e_PlayerRole_CB)
```

?

```
builder.SetTeam(Team.e_Right)
builder.AddPlayer(1.0, 0.0, e_PlayerRole_GK, True)
```

```
env = football_env.create_environment(  
    env_name="custom_academy_doing_laps",  
    ...  
)
```



00:00



FRQ



RBA



RBA



0



A photograph of a man and a young boy in dark suits standing in a bright room. They are both looking towards the right and adjusting their neckties. The man is wearing glasses and has a beard. The boy has blonde hair. In the background, there are large windows with decorative frames, green plants, and a sofa. An orange rounded rectangle in the upper left corner contains the text.

Imitation
Learning