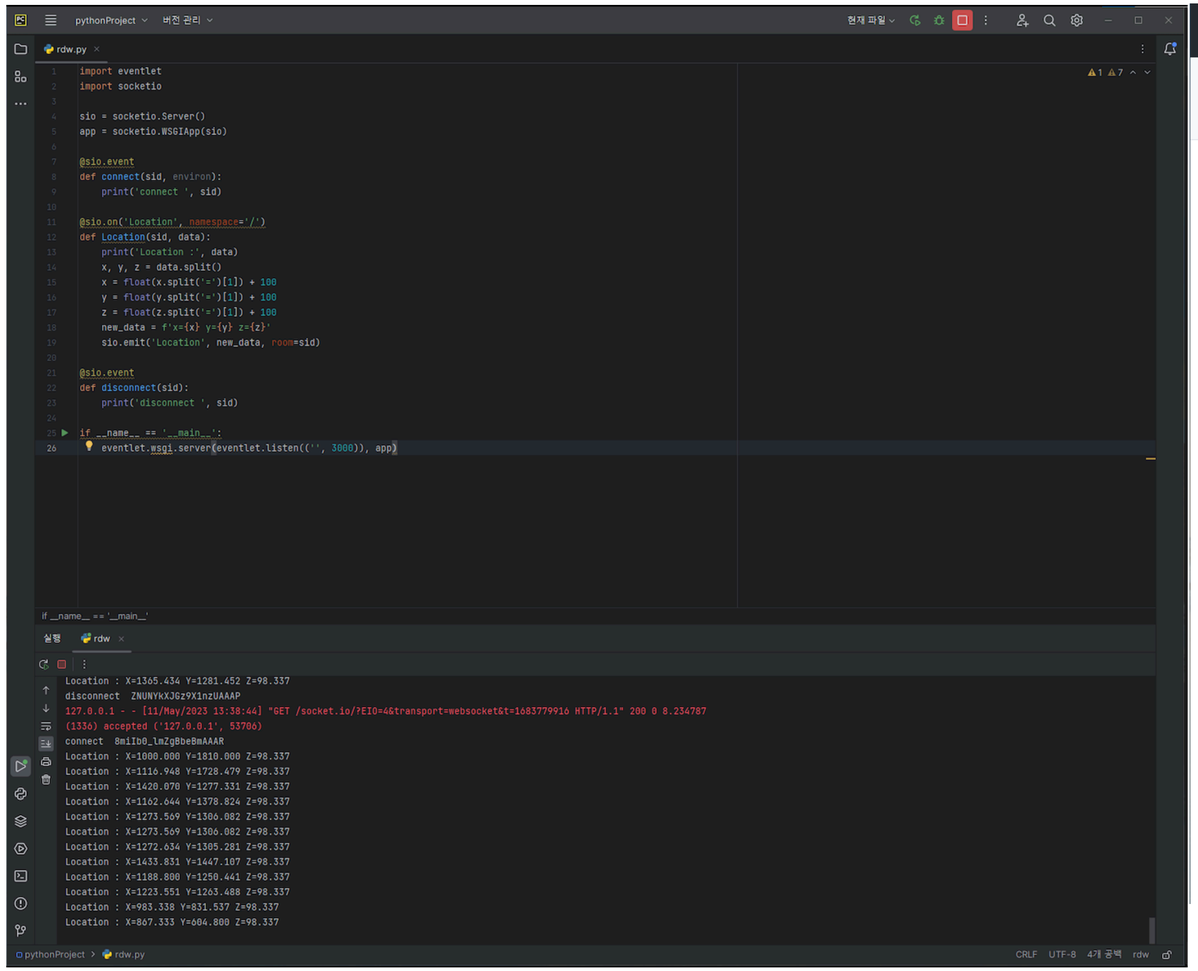
Redirected Walking

230608 19101188 고은수

Todo

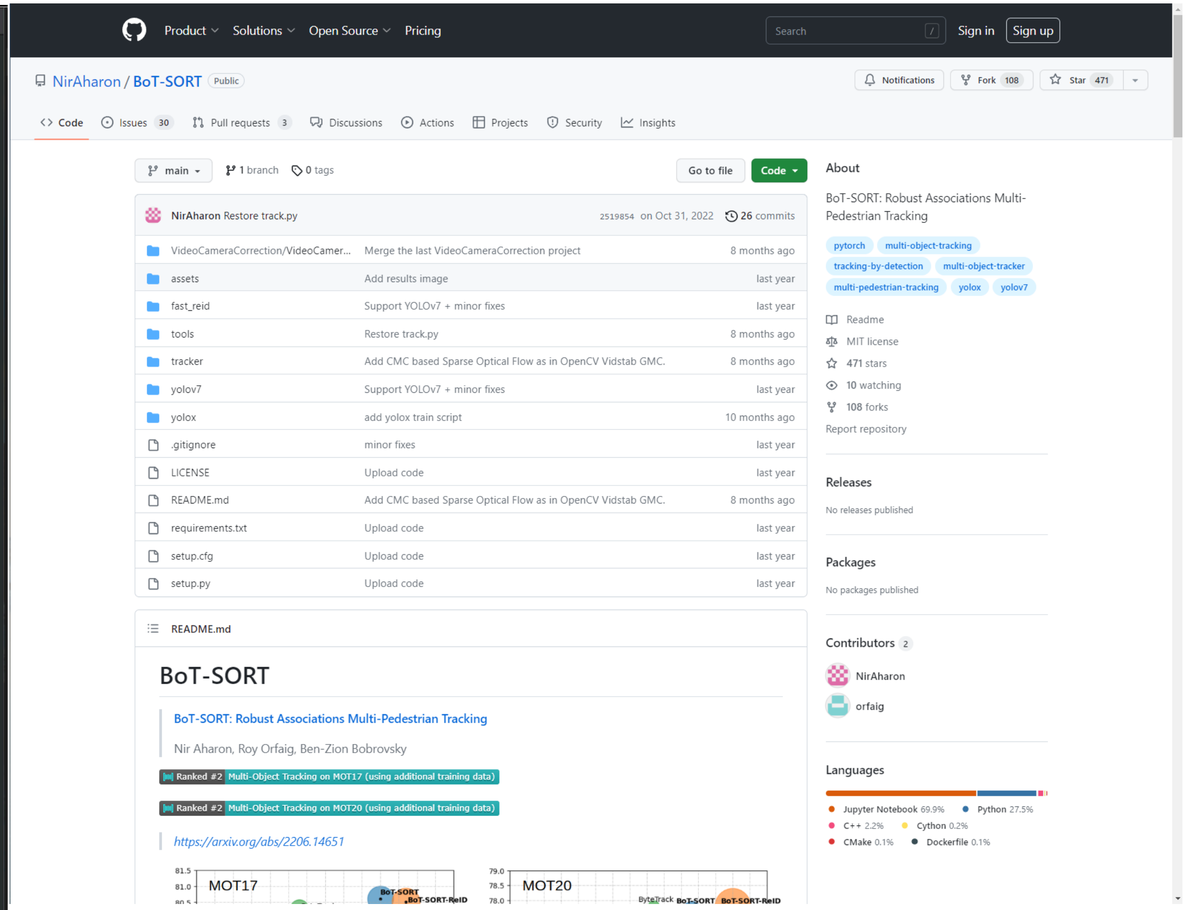


```python
import eventlet
import socketio

sio = socketio.Server()
app = socketio.WSGIApp(sio)

@sio.event
def connect(sid, environ):
    print('connect ', sid)

@sio.on('Location', namespace='/')
def Location(sid, data):
    print('Location :', data)
    x, y, z = data.split()
    x = float(x.split('=')[1]) + 100
    y = float(y.split('=')[1]) + 100
    z = float(z.split('=')[1]) + 100
    new_data = f'x={x} y={y} z={z}'
    sio.emit('Location', new_data, room=sid)

@sio.event
def disconnect(sid):
    print('disconnect ', sid)

if __name__ == '__main__':
    eventlet.wsgi.server(eventlet.listen(('', 3000)), app)
```

```
Location : X=1365.434 Y=1281.452 Z=98.337
disconnect  ZNUNYkXJGz9XinzUAAAP
127.0.0.1 - - [11/May/2023 13:38:44] "GET /socket.io/?EIO=4&transport=websocket&t=1683779916 HTTP/1.1" 200 0 8.234787
(1336) accepted ('127.0.0.1', 53706)
connect  8miIb0_lmZgBbeBmAAAR
Location : X=1000.000 Y=1810.000 Z=98.337
Location : X=1116.948 Y=1728.479 Z=98.337
Location : X=1420.070 Y=1277.331 Z=98.337
Location : X=1162.644 Y=1378.824 Z=98.337
Location : X=1273.569 Y=1306.082 Z=98.337
Location : X=1273.569 Y=1306.082 Z=98.337
Location : X=1272.634 Y=1305.281 Z=98.337
Location : X=1433.831 Y=1447.107 Z=98.337
Location : X=1188.800 Y=1250.441 Z=98.337
Location : X=1223.551 Y=1263.488 Z=98.337
Location : X=983.338 Y=831.537 Z=98.337
Location : X=867.333 Y=604.800 Z=98.337
```

Socket Server

socket.io, wsgi를 이용한 웹서버



NirAharon / BoT-SORT

BoT-SORT

BoT-SORT: Robust Associations Multi-Pedestrian Tracking

Nir Aharon, Roy Orfaig, Ben-Zion Bobrovsky

Ranked #2 Multi-Object Tracking on MOT17 (using additional training data)

Ranked #2 Multi-Object Tracking on MOT20 (using additional training data)

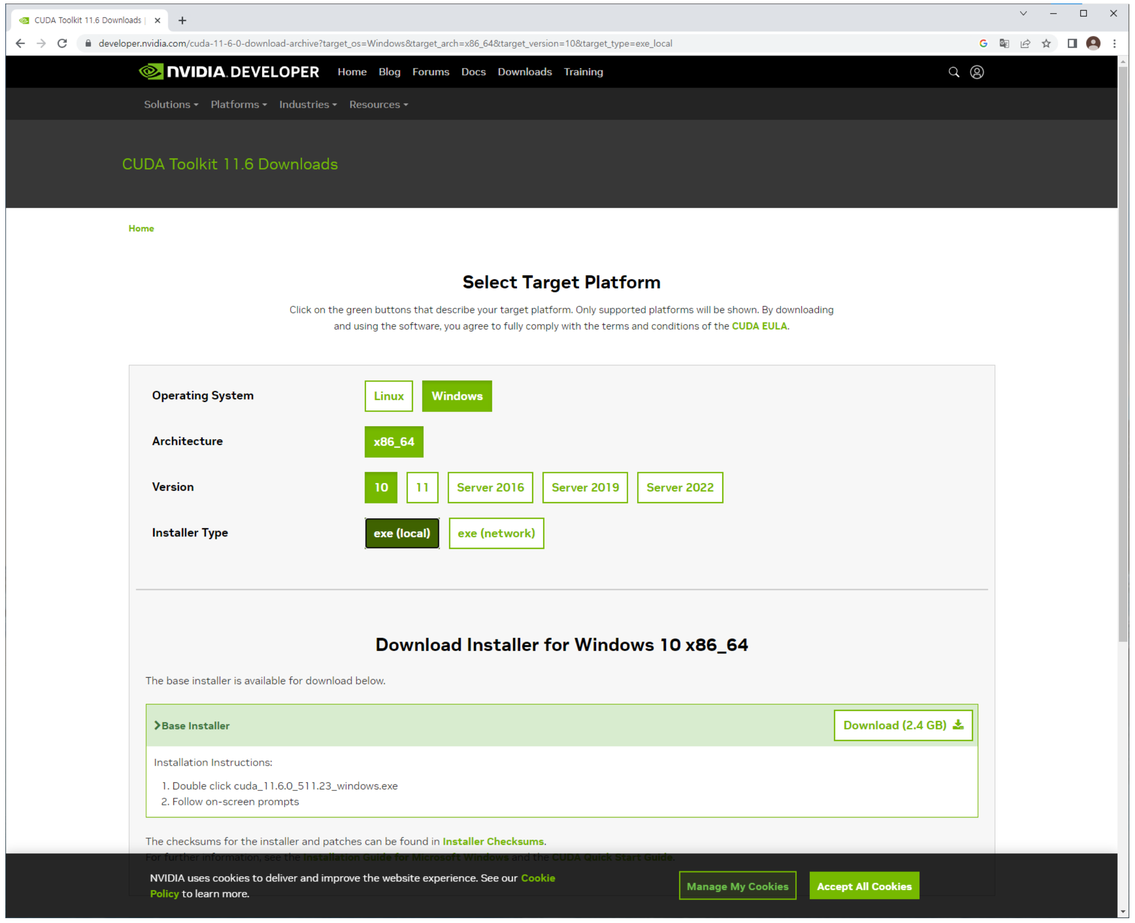
https://arxiv.org/abs/2206.14651

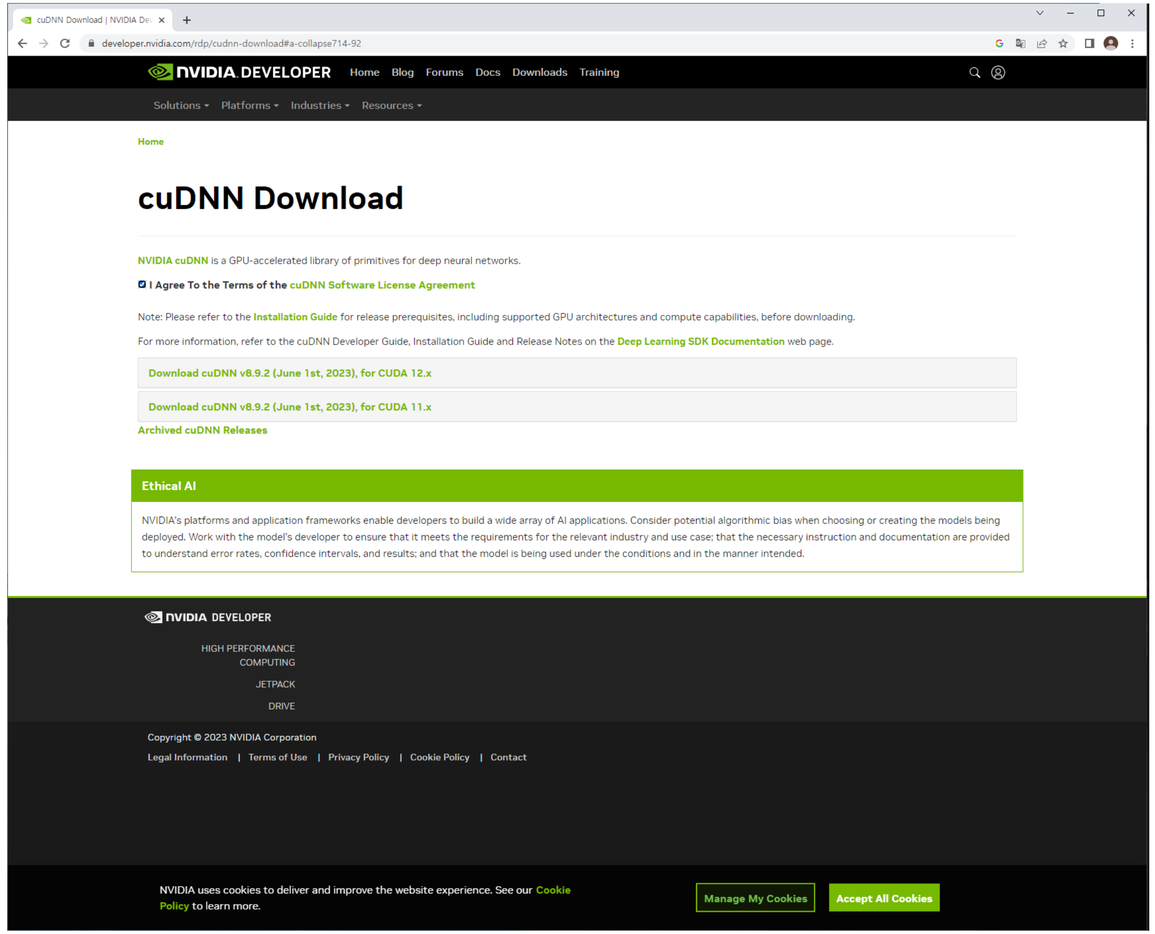
BoT-SORT

좌표를 얻는 스크립트

초기설정

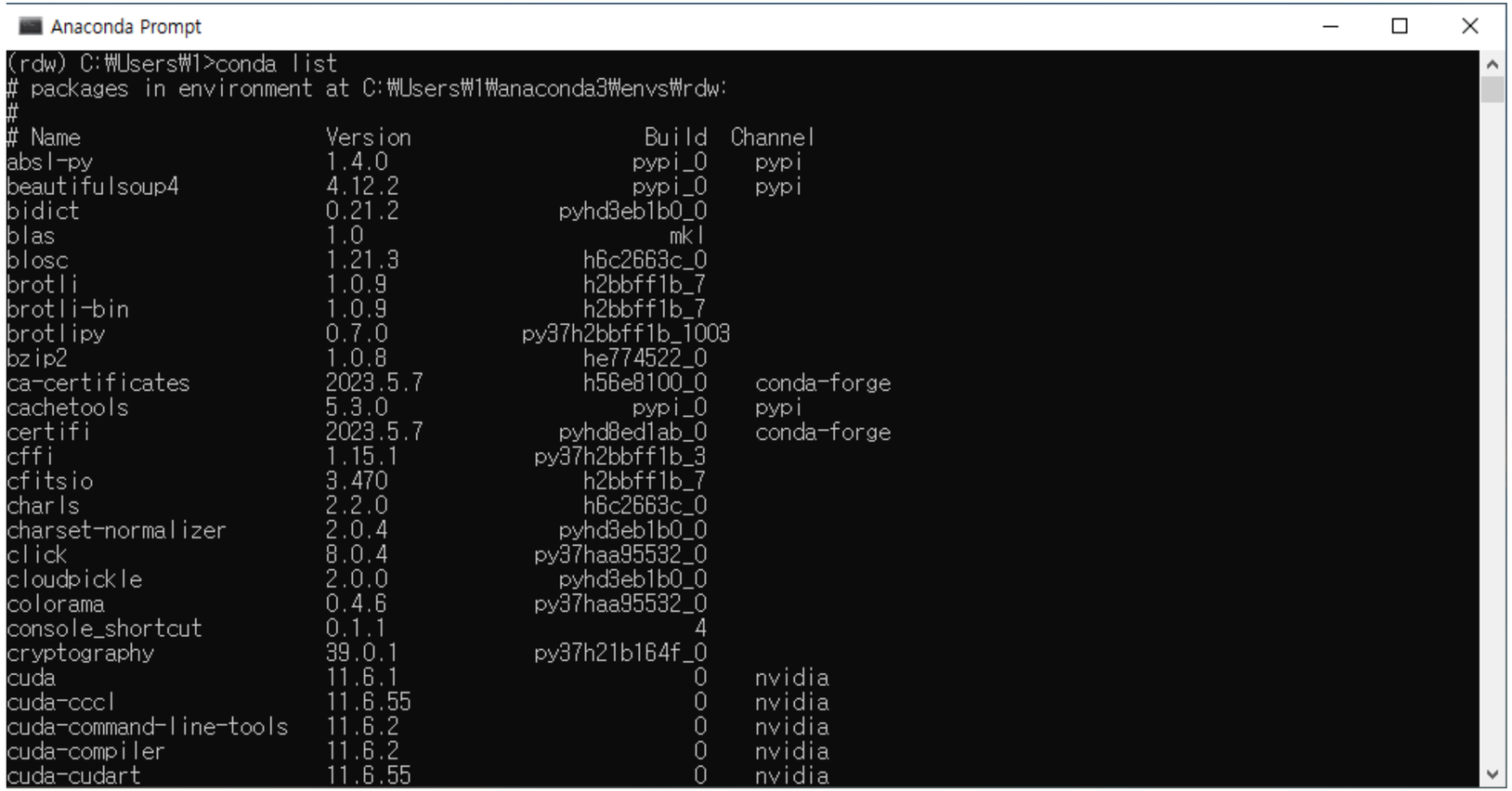
CUDA(11.6) & CUDNN(8.9.2) 설치 및 설정



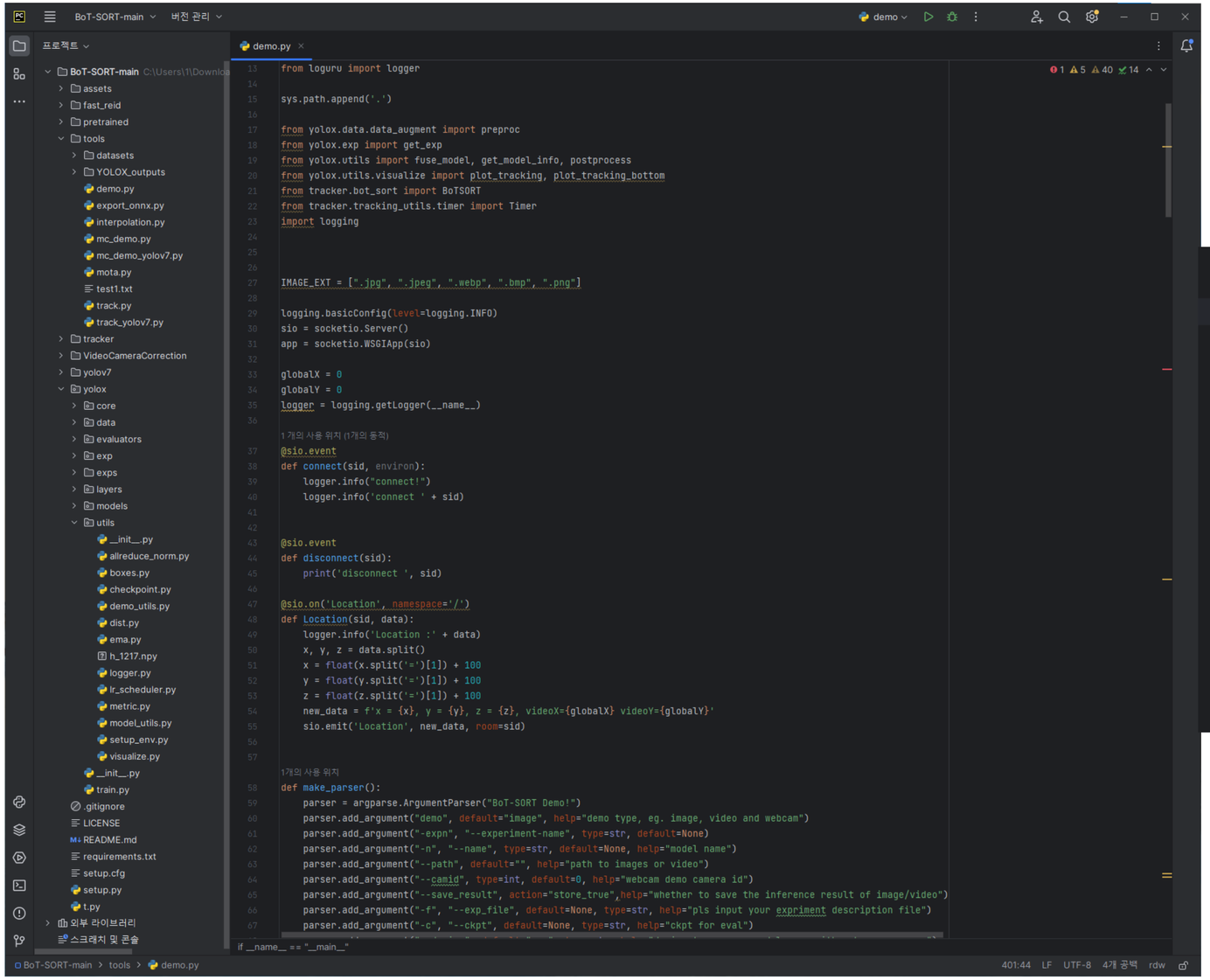


초기설정

가상환경 설정

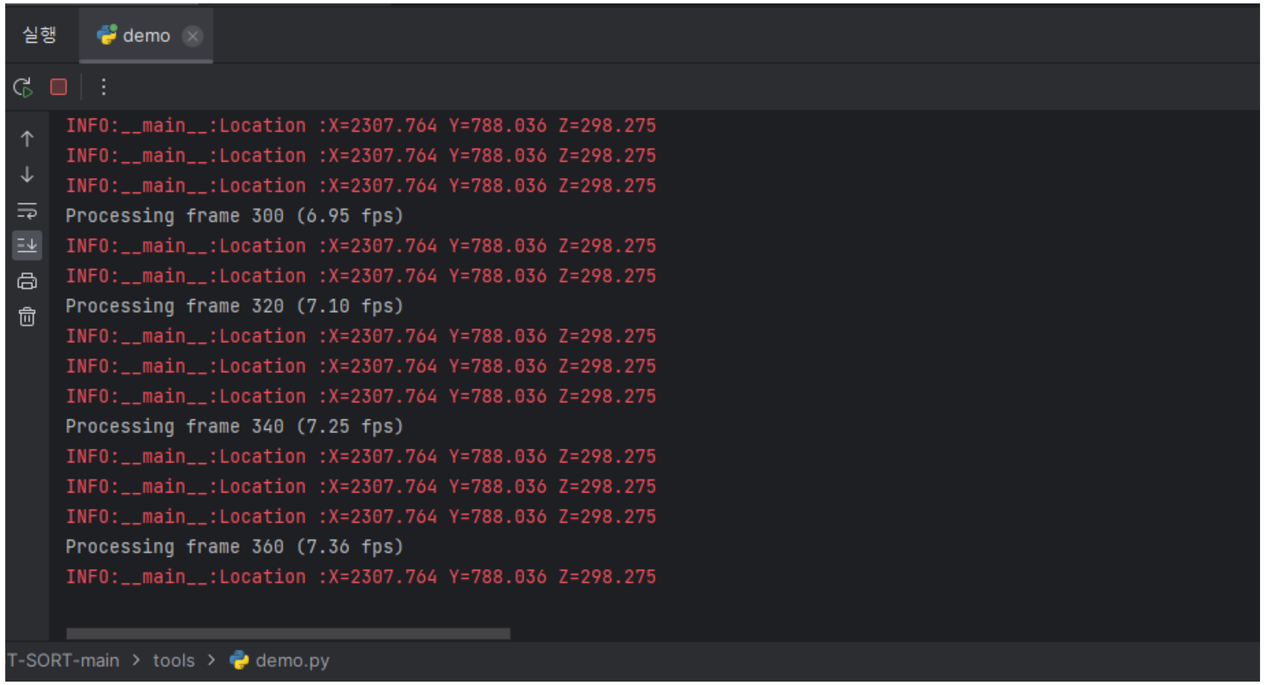

Anaconda Prompt
(rdw) C:₩Users₩1>conda list
packages in environment at C:₩Users₩1₩anaconda3₩envs₩rdw:
#
Name Version Build Channel
absl-py 1.4.0 pypi_0 pypi
beautifulsoup4 4.12.2 pypi_0 pypi
bidict 0.21.2 pyhd3eb1b0_0
blas 1.0 mkl
blosc 1.21.3 h6c2663c_0
brotli 1.0.9 h2bbff1b_7
brotli-bin 1.0.9 h2bbff1b_7
brotlipy 0.7.0 py37h2bbff1b_1003
bzip2 1.0.8 he774522_0
ca-certificates 2023.5.7 h56e8100_0 conda-forge
cachetools 5.3.0 pypi_0 pypi
certifi 2023.5.7 pyhd8ed1ab_0 conda-forge
cffi 1.15.1 py37h2bbff1b_3
cfitsio 3.470 h2bbff1b_7
charls 2.2.0 h6c2663c_0
charset-normalizer 2.0.4 pyhd3eb1b0_0
click 8.0.4 py37haa95532_0
cloudpickle 2.0.0 pyhd3eb1b0_0
colorama 0.4.6 py37haa95532_0
console_shortcut 0.1.1 4
cryptography 39.0.1 py37h21b164f_0
cuda 11.6.1 0 nvidia
cuda-cccl 11.6.55 0 nvidia
cuda-command-line-tools 11.6.2 0 nvidia
cuda-compiler 11.6.2 0 nvidia
cuda-cudart 11.6.55 0 nvidia

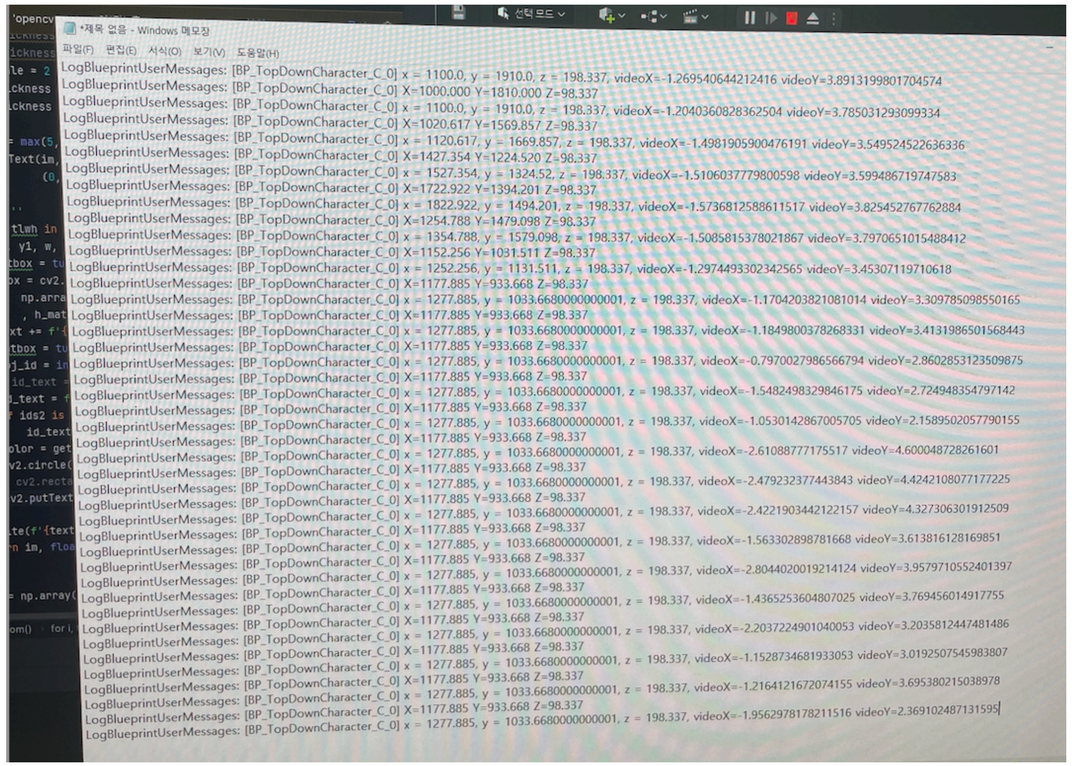
코드 Merge




```python
if __name__ == "__main__":
    args = make_parser().parse_args()
    exp = get_exp(args.exp_file, args.name)

    args.ablation = False
    args.mot20 = not args.fuse_score
    print(1)
    1개의 사용 위치
    def thread_func():
        print("Web server started.")
        wsgi.server(eventlet.listen(('', 3000)), app)
        print("Web server stopped.")
    thread1 = threading.Thread(target=thread_func)
    thread1.start()
    # eventlet.spawn(start_server)
    print(2)
    main(exp, args)
    thread1.join()
```

실행결과

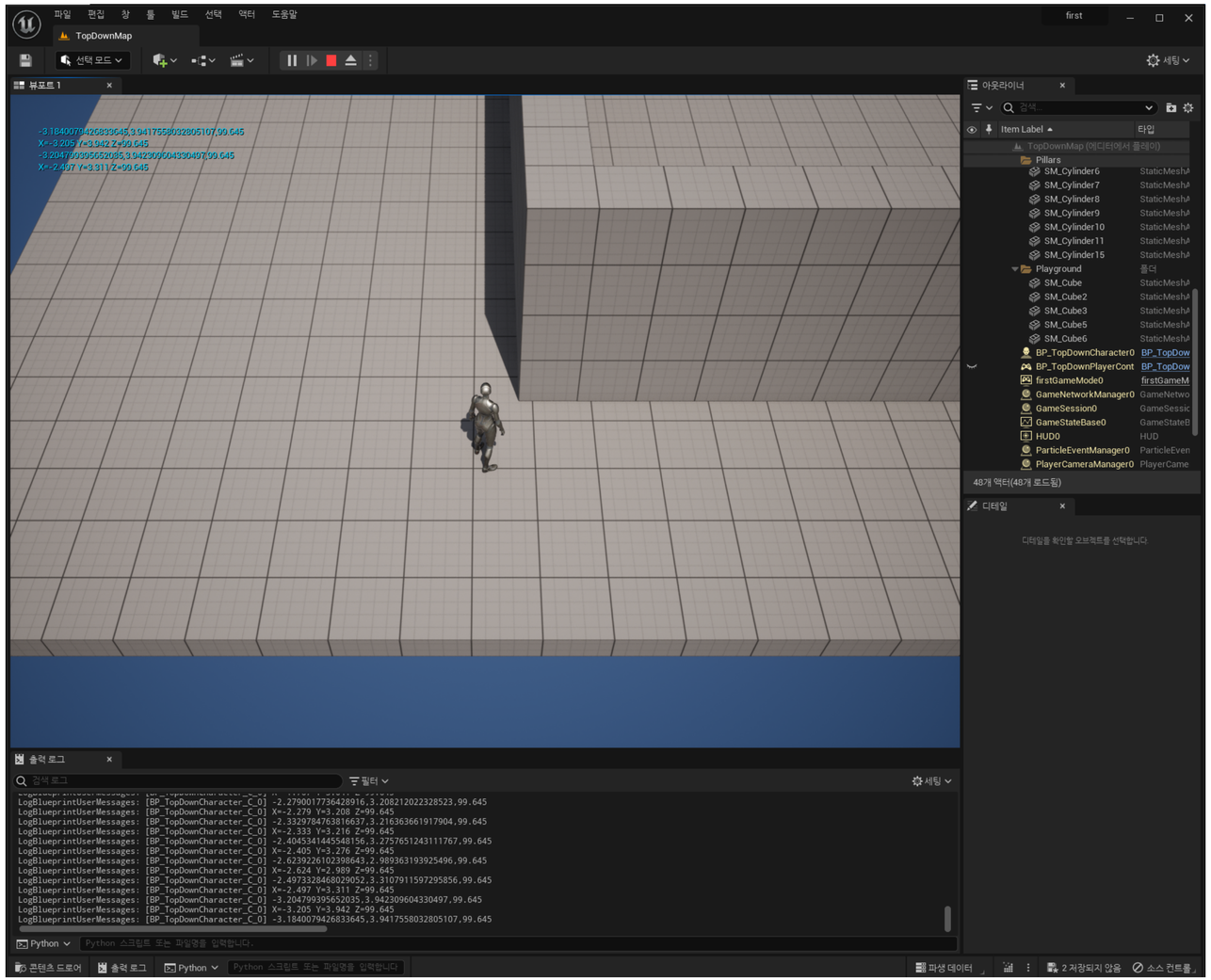




UE5 to Python

Python to UE5

캐릭터의 좌표 조정



서버에서 보내준 좌표를 이용해서
캐릭터의 좌표를 조정했습니다.

정리) Server와 Client 역할

Client(UE5)

1. 사용자들의 위치에 따라서 가상환경에서의 좌표 조정

2. Server로 부터 받은 Key(rdw)를 이용해서 화면 조정

Server(Python)

1. Client가 사용자들의 현재 위치를 요청하면 넘겨주기

2. 사용자의 예측 방향, 현재 위치를 기준으로 Key넘겨주기

TODO

1. 서버에서 key를 넘겼을 때 화면(카메라) 조정이 가능한지 확인할 수 있는

   1인칭 프로젝트 생성

2. BoT-SORT 카메라 연동 테스트

3. 서버에서 위치 뿐만이 아니라 방향도 전송할 수 있도록

4. RDW 로직 구상

감사합니다