



requirement:
Protobuf
Opencv4(...)
Boost
Abseil
Grpc
Re2
(used brew)

Camera Server

Socket() :4097 port

Bind()

listen()

accept()

Wait for connection



Thread 1: Camera
Thread 2: send()

Pixel data
Mat(structure)

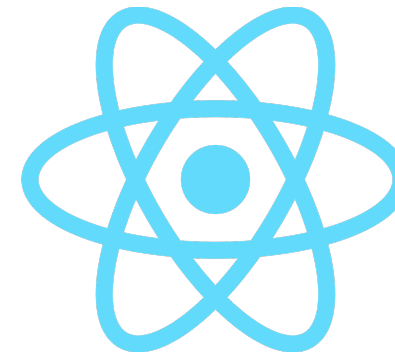
Camera Client

Socket()

connct()

Establish connection

Thread 1: recv(4097)
Thread 2 : gRPC(50051)



FastAPI

Client

WebSocket

Applying Model

requirement:
Grpcio=1.51.1
Numpy=1.22.3
Keras=2.9.0
Opencv-python=4.7.0.68
Fastapi=0.92.0
Protobuf=3.19.4
(used conda)

K Keras

NetWork : Road-Semantic segmentation(U-Net)
DataSet (Source): KITTI Road dataset



gRPC

Data type
(proto)



```
Message OcvMat {  
  int32 rows = 1;  
  int32 cols = 2;  
  int32 elt_type = 3;  
  bytes mat_data = 4;  
}
```

Image Process

Server