

# Carla Server



**Simulator**

# Client Side

## User script:

- Connection to Carla Server
- Synchronizes Carla simulation and MPC control framework
- Access information of simulation
- Sending vehicle control inputs to simulation
- Handling all vehicles controls (EV and TVs)
- Logging the EV state information

## Control Agent:

- Sampling WP from Lane
- Approximation of curvature function
- Setting constraint based on scene (information of other TVs)
- Triggering of MPC solving

➡ Definition of optimization goals (speed, reference curve, constraints)

## Road-aligned MPC:

- Converting xy-state to road-aligned state
- Solving optimization problem with a casADi solver
- Returning derived optimized control