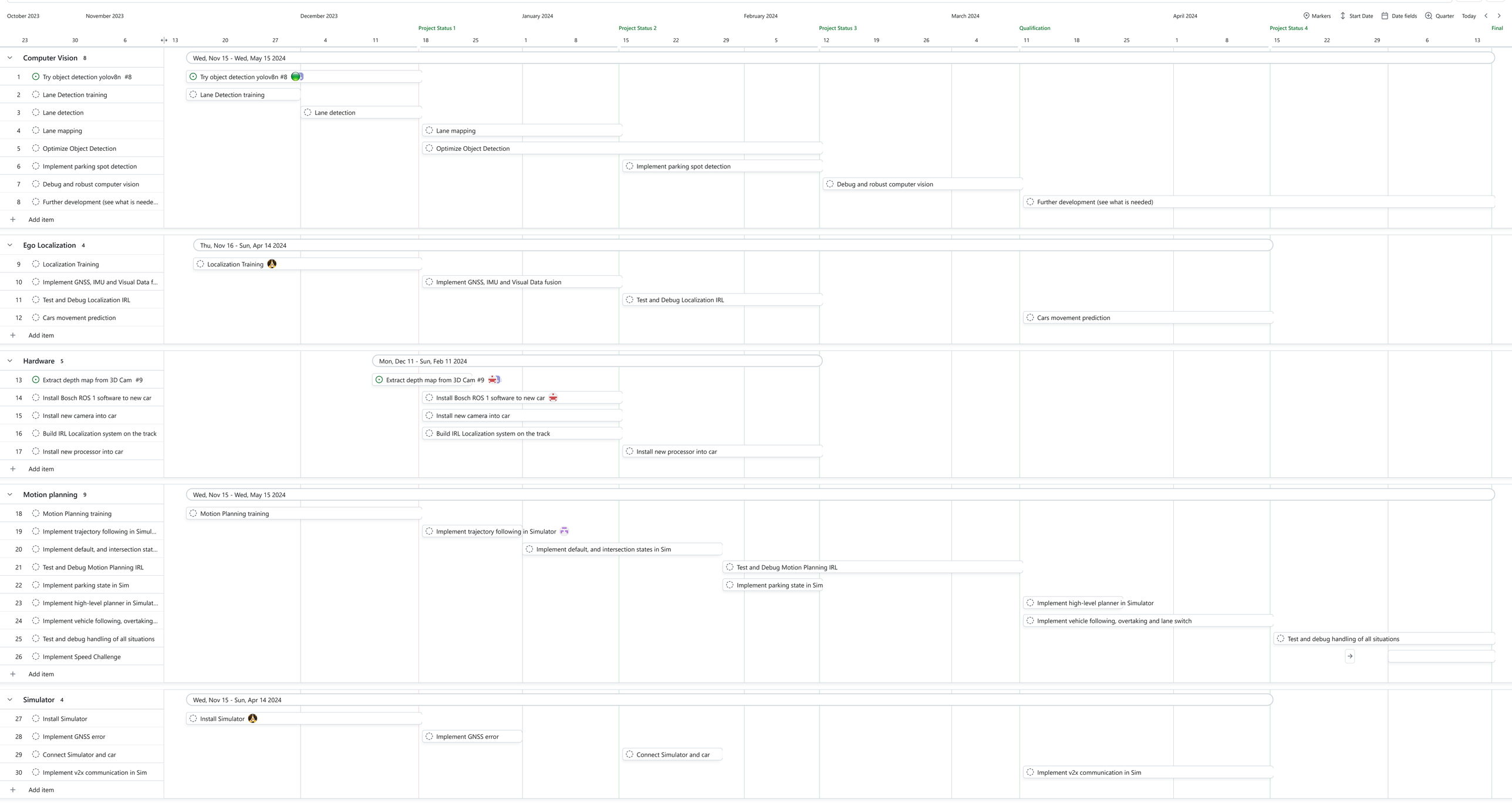
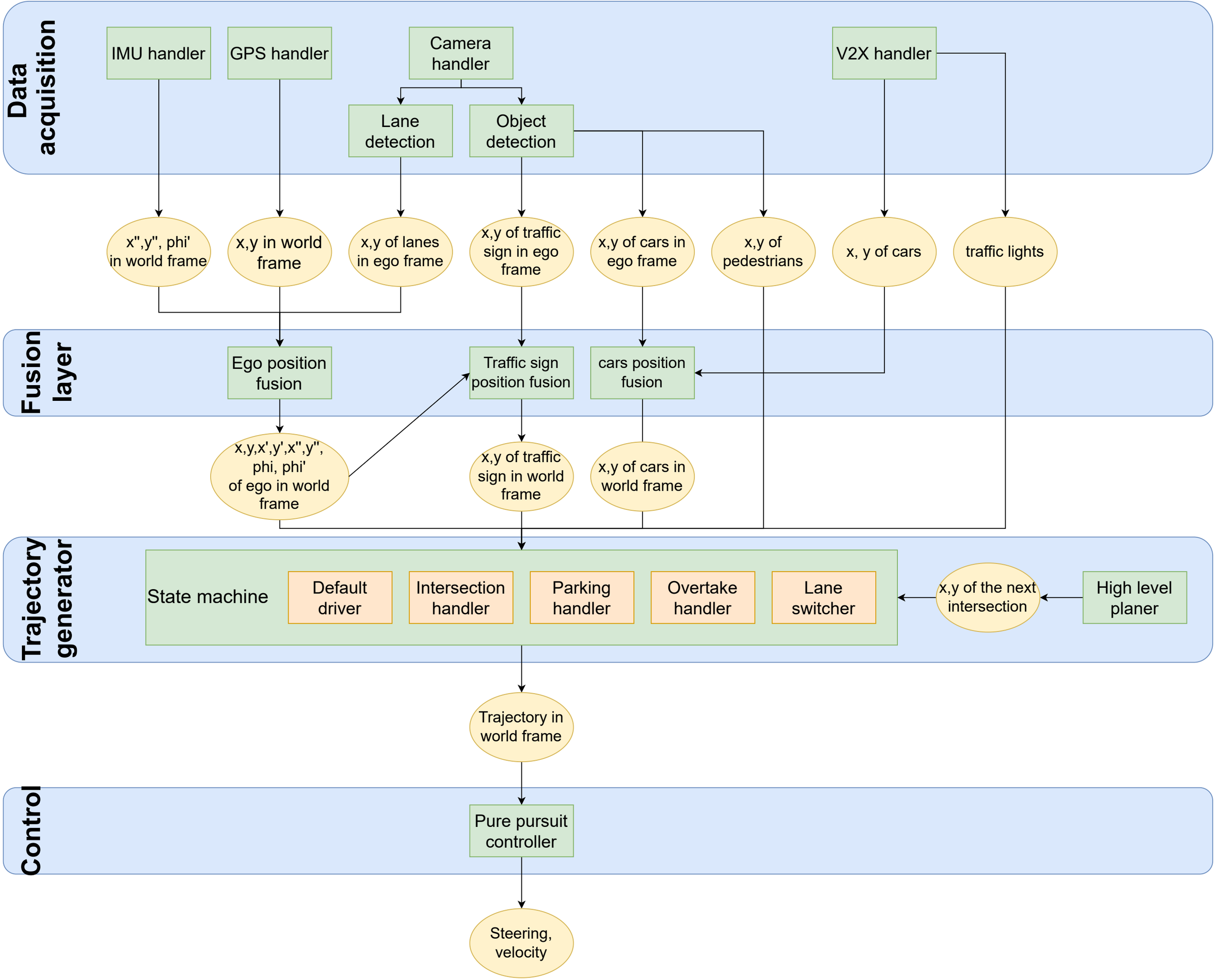

October 2023
November 2023
December 2023
January 2024
February 2024
March 2024
April 2024
Markers
Start Date
Date fields
Quarter
Today
Project Status 1
Project Status 2
Project Status 3
Qualification
Project Status 4
Final
Computer Vision 8
Wed, Nov 15 - Wed, May 15 2024
1 Try object detection yolov8n #8
2 Lane Detection training
3 Lane detection
4 Lane mapping
5 Optimize Object Detection
6 Implement parking spot detection
7 Debug and robust computer vision
8 Further development (see what is neede...
Add item
Ego Localization 4
Thu, Nov 16 - Sun, Apr 14 2024
9 Localization Training
10 Implement GNSS, IMU and Visual Data f...
11 Test and Debug Localization IRL
12 Cars movement prediction
Add item
Hardware 5
Mon, Dec 11 - Sun, Feb 11 2024
13 Extract depth map from 3D Cam #9
14 Install Bosch ROS 1 software to new car
15 Install new camera into car
16 Build IRL Localization system on the track
17 Install new processor into car
Add item
Motion planning 9
Wed, Nov 15 - Wed, May 15 2024
18 Motion Planning training
19 Implement trajectory following in Simul...
20 Implement default, and intersection stat...
21 Test and Debug Motion Planning IRL
22 Implement parking state in Sim
23 Implement high-level planner in Simulat...
24 Implement vehicle following, overtaking...
25 Test and debug handling of all situations
26 Implement Speed Challenge
Add item
Simulator 4
Wed, Nov 15 - Sun, Apr 14 2024
27 Install Simulator
28 Implement GNSS error
29 Connect Simulator and car
30 Implement v2x communication in Sim
Add item
Try object detection yolov8n #8
Lane Detection training
Lane detection
Lane mapping
Optimize Object Detection
Implement parking spot detection
Debug and robust computer vision
Further development (see what is needed)
Localization Training
Implement GNSS, IMU and Visual Data fusion
Test and Debug Localization IRL
Cars movement prediction
Extract depth map from 3D Cam #9
Install Bosch ROS 1 software to new car
Install new camera into car
Build IRL Localization system on the track
Install new processor into car
Motion Planning training
Implement trajectory following in Simulator
Implement default, and intersection states in Sim
Test and Debug Motion Planning IRL
Implement parking state in Sim
Implement high-level planner in Simulator
Implement vehicle following, overtaking and lane switch
Test and debug handling of all situations
Install Simulator
Implement GNSS error
Connect Simulator and car
Implement v2x communication in Sim


Data acquisition
IMU handler
GPS handler
Camera handler
V2X handler
Lane detection
Object detection
x",y", phi' in world frame
x,y in world frame
x,y of lanes in ego frame
x,y of traffic sign in ego frame
x,y of cars in ego frame
x,y of pedestrians
x, y of cars
traffic lights
Fusion layer
Ego position fusion
Traffic sign position fusion
cars position fusion
x,y,x',y',x",y", phi, phi' of ego in world frame
x,y of traffic sign in world frame
x,y of cars in world frame
Trajectory generator
State machine
Default driver
Intersection handler
Parking handler
Overtake handler
Lane switcher
x,y of the next intersection
High level planer
Trajectory in world frame
Control
Pure pursuit controller
Steering, velocity