

#### **PROJECT**

### Model Predictive Control (MPC)

A part of the Self Driving Car Engineer Nanodegree Program

PROJECT REVIEW 5 NOTES

# **Meets Specifications**

SHARE YOUR ACCOMPLISHMENT



Congratulations on passing Term 2! You did an excellent job on this project and I hope that you are glad to be done!

I look forward to seeing you in Term 3!!!

## Compilation

Code must compile without errors with cmake and make.

Given that we've made CMakeLists.txt as general as possible, it's recommend that you do not change it unless you can guarantee that your changes will still compile on any platform.

Your code complied without any errors!

### **Implementation**

Student describes their model in detail. This includes the state, actuators and update equations.

Great job with describing the model.

✓ Student discusses the reasoning behind the chosen *N* (timestep length) and *dt* (elapsed duration between timesteps) values. Additionally the student details the previous values tried.

Nice job explaining the importance of the N and dt values.

A polynomial is fitted to waypoints.

If the student preprocesses waypoints, the vehicle state, and/or actuators prior to the MPC procedure it is described.

Great job fitting the polynomial to the waypoints!

The student implements Model Predictive Control that handles a 100 millisecond latency. Student provides details on how they deal with latency.

Nice job tackling the latency problem!

## Simulation

✓ No tire may leave the drivable portion of the track surface. The car may not pop up onto ledges or roll over any surfaces that would otherwise be considered unsafe (if humans were in the vehicle).

Car did an awesome job in the simulator!

**▶** DOWNLOAD PROJECT