UDACITY

‹ Return to "Self-Driving Car Engineer" in the classroom

DISCUSS ON STUDENT HUB

PID Controller

审阅

代码审阅

HISTORY

Requires Changes

还需满足 2 个要求 变化

Dear Learner,
This was a brilliant submission and I enjoyed reviewing your work though some items didn't meet specifications. Follow the feedback given, do the required changes and resubmit. Just a minor effort and you would pass this project successfully. I am 100% sure that the next submission will be Perfect. I really love the way you tackled this project. Please keep up the fantastic work. Thanks!

I am really happy with your work because it tells me the kind of person you are, efficient, organized and result-oriented. Remember this: `Never give up! Failure and rejection are only the first step to succeeding`. So please keep up the fantastic work. 💪

Advance Learning Tips

I provide you additional links below to help you deepen your understanding of related concepts.

- Automating tuning of PID Controllers;
- On Automation of the PID Tuning Procedure;
- Tuning a PID Controller;
- Automatic Controller Tuning using Relay-based Model Identification.
  Also, take a look at these topics for more reading.
- PID controller;

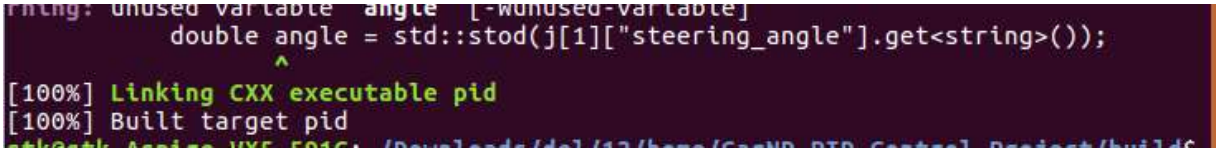
- PID Explained for Process Engineers: Part 2 - Tuning Coefficients.

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.

It is really great to see that your code compiles without errors on running the command `cmake .. && make`. Just a few warning messages were generated, however, all is good as seen below:



Implementation

It's encouraged to be creative, particularly around hyperparameter tuning/optimization. However, the base algorithm should follow what's presented in the lessons.

Looking at the code implementation, it is clear that the implementation does not deviate from the base algorithm presented in the lessons. Awesome!👏

Reflection

Student describes the effect of the P, I, D component of the PID algorithm in their implementation. Is it what you expected?

Visual aids are encouraged, i.e. record of a small video of the car in the simulator and describe what each component is set to.

A great job has been done so far in this project, however, you need provide a write-up in order for this section to meet specifications.

Amendment Required

Please provide a discussion of the effect of the P, I, D component of the PID algorithm in their implementation and comment if these results are what you expected.

It is required that the effects of the P, I, D components of the PID algorithm in your implementation be described in a write-up. I couldn't find one in this submission. Please do and include it in the next submission.

Advance Learning Tips

You should also refer to the following links that have some more information on the role of each component.

- Self-Tuning PID Controller for Autonomous Car Tracking in Urban Traffic
- PID controller
- Controlling Self Driving Cars

Student discusses how they chose the final hyperparameters (P, I, D coefficients). This could be have been done through manual tuning, twiddle, SGD, or something else, or a combination!

Similar from the previous rubric, you need to provide a write-up on this.

Amendment Required

Please provide a discussion on how you chose the final hyperparameters (P, I, D coefficients).

Advance Learning Tips

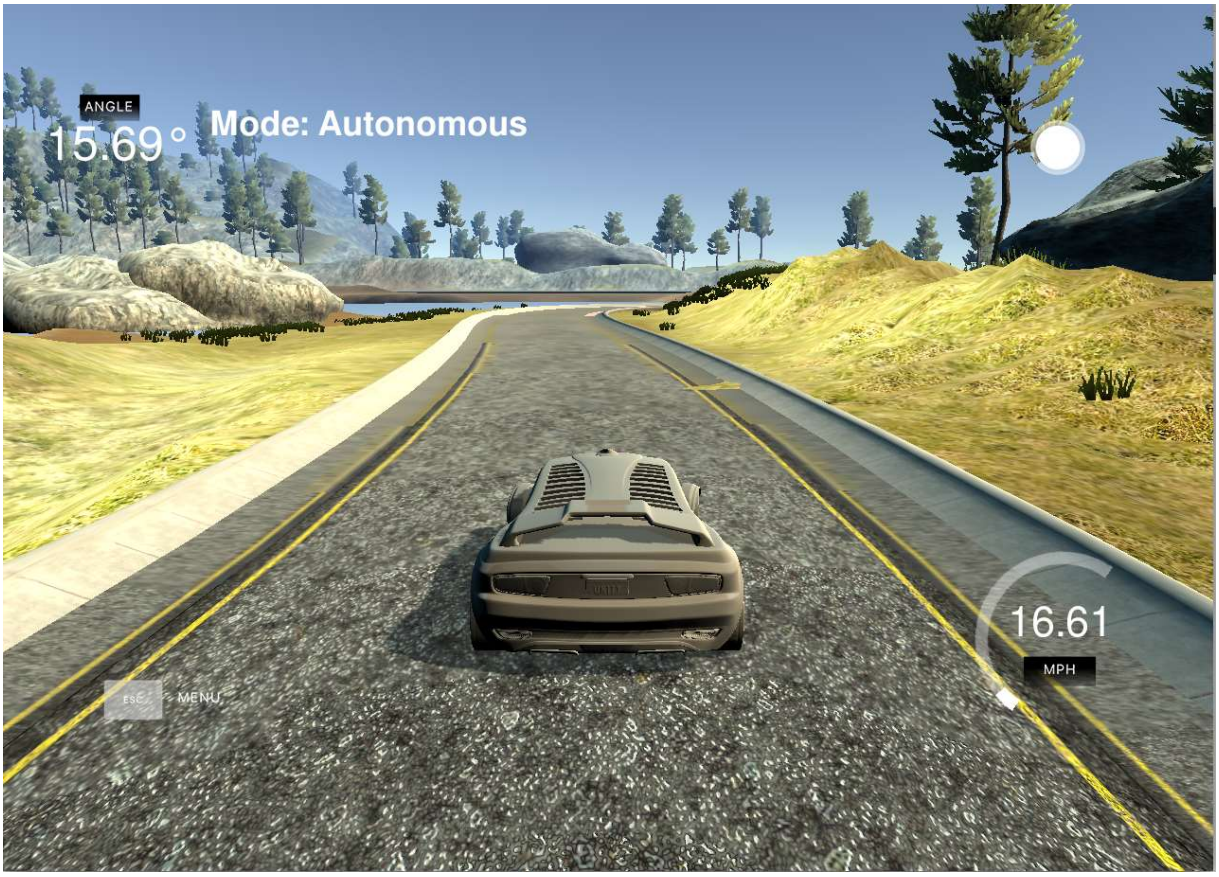
For more information on hyperparameter tuning, refer to the following:

- An Introduction to PID Controllers
- What are good strategies for tuning PID loops?
- Twiddle for PID

Simulation

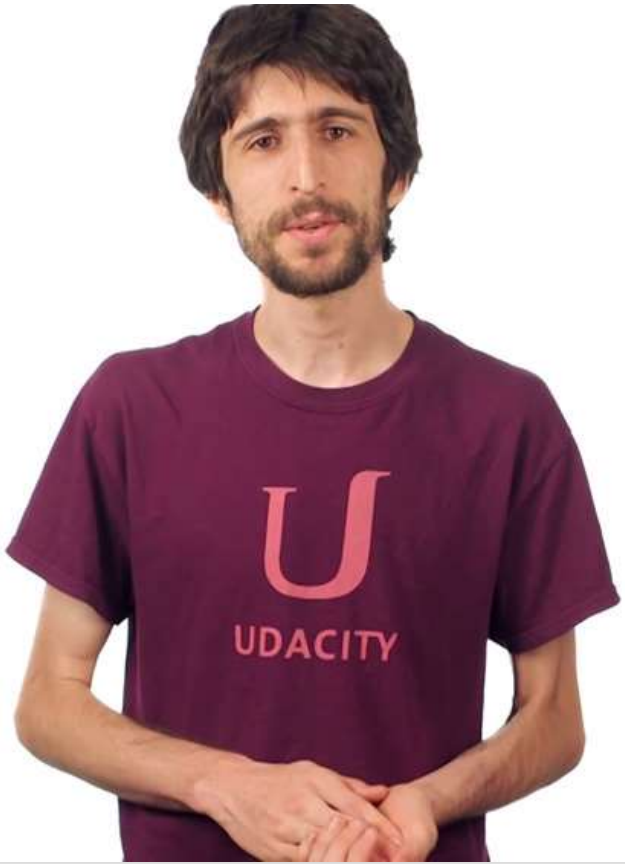
No tire may leave the drivable portion of the track surface. The car may not pop up onto ledges or roll over any surfaces that would otherwise be considered unsafe (if humans were in the vehicle).

Though the driving was quite wobbly, the car was able to drive a full loop around the track without popping onto the ledges. Well done!



重新提交

下载项目



重新提交项目的最佳做法

Ben 与你分享修改和重新提交的 5 个有益的小贴士。

观看视频 (3:01)

返回 PATH

给这次审阅打分