UDACITY

‹ Return to "Flying Car" in the classroom

DISCUSS ON STUDENT HUB

Building a Controller

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

Congratulations on passing the project! As noted above, I can tell you put a lot of time into this, including finishing the extra challenge! I'm impressed, and happy to have gotten to review your submission! Keep up the great work and I know you'll do wonders at whatever you set your mind to! Once again congratulations and I urge you to keep up the wonderful work ethic!

Writeup

The writeup / README should include a statement and supporting figures / images that explain how each rubric item was addressed, and specifically where in the code each step was handled.

Absolutely beautiful job, including the extra challenge!

Implemented Controller

The controller should be a proportional controller on body rates to commanded moments. The controller should take into account the moments of inertia of the drone when calculating the commanded moments.

Everything looks perfect!

The controller should use the acceleration and thrust commands, in addition to the vehicle attitude to output a body rate command. The controller should account for the non-linear transformation from local accelerations to body rates. Note that the drone's mass should be accounted for when calculating the target angles.

Great work!

The controller should use both the down position and the down velocity to command thrust. Ensure that the output value is indeed thrust (the drone's mass needs to be accounted for) and that the thrust includes the non-linear effects from non-zero roll/pitch angles.

Additionally, the C++ altitude controller should contain an integrator to handle the weight non-idealities presented in scenario 4.

Everything looks great!

The controller should use the local NE position and velocity to generate a commanded local acceleration.

Wonderful work, I can tell how much time and effort you put into this project :)

The controller can be a linear/proportional heading controller to yaw rate commands (non-linear transformation not required).

Once again great work!

The thrust and moments should be converted to the appropriate 4 different desired thrust forces for the moments. Ensure that the dimensions of the drone are properly accounted for when calculating thrust from moments.

Wonderful job!

Flight Evaluation

Ensure that in each scenario the drone looks stable and performs the required task. Specifically check that the student's controller is able to handle the non-linearities of scenario 4 (all three drones in the

scenario should be able to perform the required task with the same control gains used).

Everything looks incredibly stable, and I can tell that you put a lot of effort into getting these results. Very impressive work!

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RETURN TO PATH

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