

## The Estimation Project

The final instruction for the project.

## The Goal of this Project

In this project, you will be developing an estimator to be used by your controller to successfully fly a desired flight path using realistic sensors. This project is built on the same simulator you should now be familiar with from the Controls C++ project.

## Project Steps

1. Make sure you have cloned the repository and gotten familiar with the additional project repository files **Introduction**.
2. Implement all the necessary update and prediction steps required for your estimator to meet all the performance criteria of each step, outlined in detail in the [project README](#)
3. Tune your estimator, and re-tune your controller from your controls C++ project to successfully fly the desired trajectory with realistic sensors.

For more detailed instructions on the individual steps, make sure to read through the [project readme](#), specifically the [section outlining the tasks for the project](#).

## Evaluation

For the submission, you will be evaluated on your completion of each of the components of your estimator, and final performance of your estimator and previously made controller. Performance metrics are provided for each of the different scenarios, and your controller will need to meet these minimum performance metrics for each scenario. These performance metrics are outlined in each of the steps in the [task outline portion of the project readme](#).

## Submission

For this project you will need to submit:

1. `QuadEstimatorEKF.cpp` and `QuadEstimatorEKF.txt` containing your estimator and associated estimator parameters that successfully meets all the performance criteria.
2. `QuadController.cpp` and `QuadControlParams.txt` containing your re-tuned controller needed to work successfully with your estimator.
3. a writeup addressing all the points of the [rubric](#)

## Feedback

Please fill out the [Building an Estimator Project Feedback Form](#) after you have completed the project.

## Share Your Project

Have something fun to share? Controller flying in the desired box trajectory? Or maybe it wanted to do circles instead? We love to see any and all of your creations!

What you've accomplished is no small feat. Give yourself a pat on the back and some well-deserved recognition by sharing your amazing project with your network.

Create a gif or youtube video of your project implementation in the simulator and share with us in the [Flying Car Slack Community](#) and on social media using the links below! Make sure to use **@Udacity**, **#flyingcarnd**, **#quadestimator**, and **#madewithudacity** in your posts!