

# Finding Lane Lines Project

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## 1 Description

I wanted to make the code in both C++ and Python. I'm a beginner at programming with C++ and because OpenCV has a very nice API both in Python and C++ this was a great opportunity for me.

## 2 Reflection

One of the problems I encounter it was that there were frames when you find the fitted line is not on the lane. Because of that I knew that I needed some kind of average. I don't know if a simple avg or something like EWMA.

Another problem I saw was the fact that the frames could be from different sizes. At the beginning I hardcoded the variable `y_fin` so it can be roughly at the middle of the image. But when I started to work on the challenge video, I notice that the frames were different and in a real life scenario they will vary between videos. So I divided the frame.

### 2.0.1 Improvements

Some of the improvements are:

- GPU implementation.
- Benchmark code between CPU, GPU and cpp vs Python implementation.
- Better way to implement EWMA.