

Finding Lane Lines on the road

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1 Goal

Build a pipeline to find the lane lines on the road. (fig: 1)



Figure 1: Example for finding the lane lines on the road

2 Step

1. convert the image to the grayscale, hence it is easier to find the lanes.
2. add gaussian blur on the grayscale image to make it "smooth".
3. run the canny algorithm on top of the smoothed image to find all the "edge" by calculate the gradient.
4. clip the interesting region, the region that contains useful information.
5. convert the edge image to the hough space to find the lane line, i.e. the straight line that go through these edge points.

3 Short Coming

Everything is hard coded so that we may need to tune the parameters for every single set of road image.

4 Improvements

Collecting a dataset with labeled lane lines and build an algorithm to auto fit the parameters instead of manually tune it every single time.