# Finding Lane Lines on the Road

December 6, 2018

The goals / steps of this project are the following:

- Make a pipeline that finds lane lines on the road

- Reflect on your work in a written report

## 1 Pipeline

My pipeline worked as follows. First I converted the image to grayscale; applied Gaussian blur function; applied canny function; then got the region of interest, which is the region that consists of two lane lines, and finally applied hough lines function.

At this point, I had line segments drawn along the lane lines. To map the line segments to the full extend of the lane, I first separated the line segments based on their slope; then I sorted the points for each lane to find the point with the smallest y value; because for our test images, the position of lane lines are approximately the same, I just hard coded the bottom points. With these two points for each lane, I drawn the two lines on a blank image and combined it with the original image to get the final outputs.

## 2 Potential Shortcomings

My pipeline only deals with straight lane lines, and only those that are at the specific position of the image. For example, my pipeline did not work with 'challenge.mp4'. I will keep working on fixing this to make my pipeline run on more general cases.

## 3 Possible Improvements

A possible improvement might be instead of hard coding the point positions, I could calculate the slope of each lane. Then given the slope and a point, I could draw a line.