Project Finding Lane Lines

Describing the pipeline

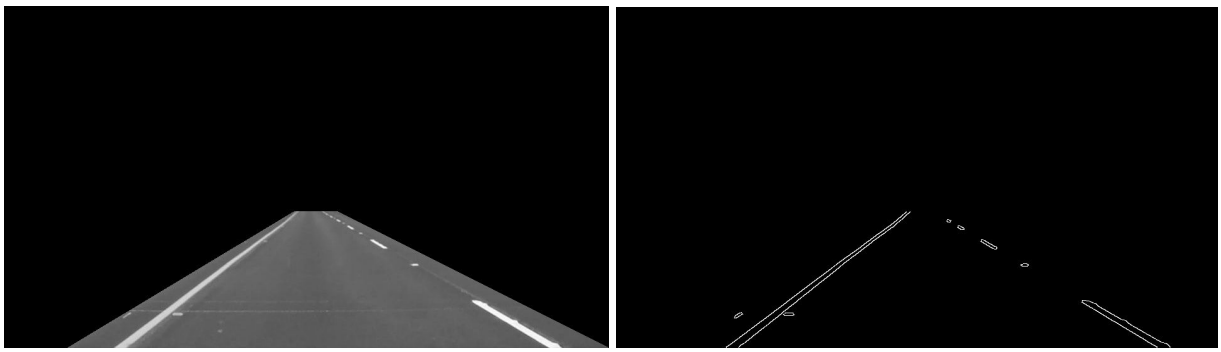
My pipeline consisted of 7 steps. First, I converted the images to grayscale,

then I applied gaussian blur using kernel size 7 to reduce undesirable lines,

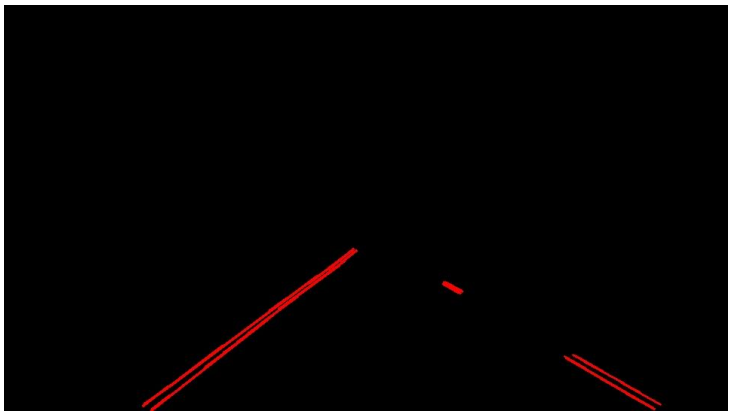
then I applied canny edge detector using low-threshold of 50 and high-threshold of 150

and after a ROI was applied but I modified the vertices

vertices = np.array([[(100,height),(width.48, height*0.6), (width*.55, height*0.6), (width,height)]], dtype=np.int32)*



Now I can finally use hough transform to find lines in the image.



In order to draw a single line on the left and right lanes, I modified the draw_lines() function for separate points calculating slopes and intercepts, I used slopes positives for right and negatives for left. So I calculate average for slopes and intercepts to fit stable lines.

Finally I draw the lines in the initial image.

Shortcomings

One potential shortcoming would be what would happen when sunlight reflect in the road and in other parts shadows "creating a new light line" and road defects.

Improvements

One potential improvement would be in the segmentation algorithm, maybe using color range would be better.