UDACITY

PROJECT

Finding Lane Lines on the Road

A part of the Self Driving Car Engineer Nanodegree Program

PROJECT REVIEW

NOTES

SHARE YOUR ACCOMPLISHMENT!

Meets Specifications

All in all I would like you to congratulate you for taking an amazing first step in this journey!! 😄

Lane Finding Pipeline

✓

The output video is an annotated version of the input video.

Well done providing an annotated output video!

✓

In a rough sense, the left and right lane lines are accurately annotated throughout almost all of the video. Annotations can be segmented or solid lines

Fantastic job here. Your left and right lane lines were accurately annotated throughout almost all of the video, as required. You may consider my comments below to further improve the algorithm.

Suggestions

- One possible parameter tuning is kernel size. You chose a kernel size of 9 here. How this kernel size will affect the parameter tuning? Try using kernel size of 3 in your pipeline.
- increase threshold for Hough Transform - it will increase number of intersections needed to detect a line and as a result reduce number of noise and incorrectly defined lines.
- increase `min_line_len` and `max_line_gap` for Hough Transform to make your lines longer with less number of breaks.

✓

Visually, the left and right lane lines are accurately annotated by solid lines throughout most of the video.

The annotated lines are solid for both the left as well as the right lanes. Good!

Reflection

✓

Reflection describes the current pipeline, identifies its potential shortcomings and suggests possible improvements. There is no minimum length. Writing in English is preferred but you may use any language.

Excellent insights have been pointed out and you are on the right path. It is also interesting to point out the need to detect curved lanes.

This research paper goes into how to detect curves and will also help in detecting faded lanes. It uses an extended version of hough lines algorithm to detect tangents to the curve which can help you detect the curve.

The algorithm will also fail if there is a rapid changes of the lane line, fading or disappearing off the line.
You can see it on the last optional video. I encourage you to tune your pipeline to implement a better algorithm. You can for example try to implement algorithm provided in this

question:
http://stackoverflow.com/questions/36598897/python-and-opencv-improving-my-lane-detection-algorithm

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Student FAQ