Description

1. The image is first converted to grayscale.
2. Gaussian smoothing is then applied to remove noise.
3. Then edges were detected using the canny edge detection algorithm.
4. The region of interest is defined by the four sided polygon. region_of_interest() function keeps the region of the image defined by the polygon and sets rest of the image to black.
5. Hough transform is applied on the resultant image to get all lines in the region of interest.
6. draw_lines_final() function identifies the far ends of right and left lines based on the slope. The function then extrapolates the lines and draws them on the blank image.
7. weighted_img() function then combines the original image with the image having right and left lanes.

Potential Shortcomings

1. Part of Region of interest is fixed for the image of resolution 960 * 540. The solution might not work as expected when the resolution change.
2. The solution might not work as expected in detecting curved lines

Suggest possible improvements

1. Definition of region of interest can be made independent of resolution