Report on Project 1: Automatic lane detection from a video

Project is build using tree main functions:

1. Global variables to identify left and right lane also track slope in left and right lane and

2. **def draw_lines(img, lines, color=[255, 0, 0], thickness=14):**
   This function draws lines with read color and thickness. It will look at the Hough lines, filter them and then assign them to left or right line. I also use global variables to smooth the jitter from frame to frame.

3. **def process_image(image) :** Takes in an image and uses Canny Edge Detection and Hough Transformations using cv2 to detect lines in the image and then draw the lane lines onto the original image.

   a. First image in converted to GRAYSCALE using cv2 function
   b. Then GAUSSIAN BLUR function is applied
   c. Then edges are computed using Canny edges method
   d. then identified region is masked
   e. Now Houge transformed is applied to get lane lines
   f. processed image is computed as an output with program parameters

   Canny Edge Detection and Hough Transforms are used to detect lines in an image. Then colour filter and processing of the lines are done to determine which belong to the left and right lane lines. Average slope is computed to tackle the curve line. The highest point on the image, and the values from the previous frame to draw the lane lines on top of the original image.

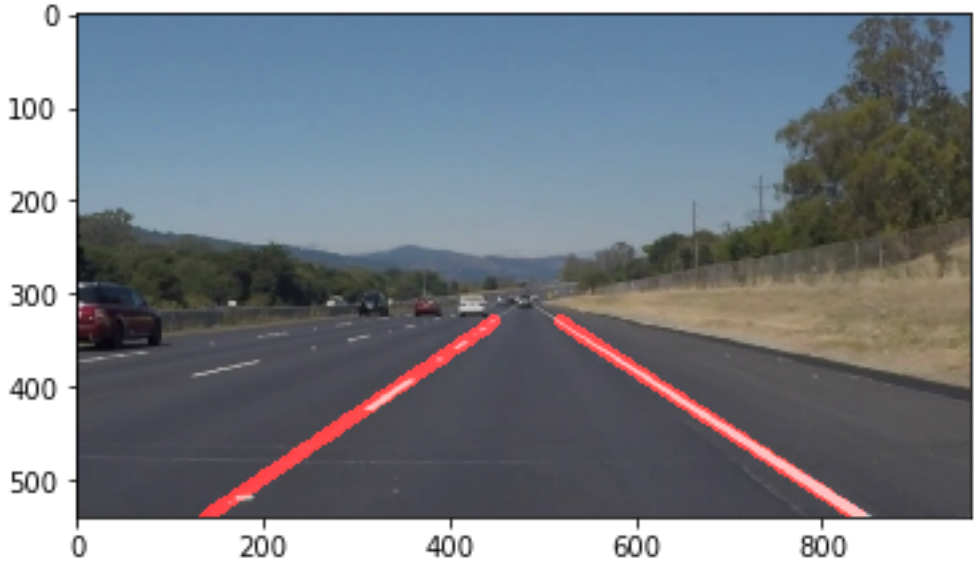

Fig. 1 Output of processed image from test image set “solidWhiteRight.jpg”

4 All test images are processed using above steps and stored in the final image folder

5. As a last module all method is extended to the video file using VideoFileClip function