Finding Lane Lines on the Road

Pipeline Description

1. Convert image to grayscale.
2. Set kernel size and apply Gaussian smoothing to reduce noise.
3. Use Canny edge detection to find edges in image.
4. Define a four sided polygon as our region of interest.
5. Apply Hough transform on edge detected image.

I modified the draw_lines() function to sort the left and right slopes by using a slope filter with a threshold to ignore horizontal lines. A positive value would be the right slope and a negative value would be the left slope. I then averaged my values and then drew a line.

Identify potential shortcomings with your current pipeline

1. The pipeline does not work well with low light conditions or changes in the road surface such as snow covered roads.
2. If there are no lane lines or only a single lane.
3. Another shortcoming is the pipeline struggles with curves.

Suggest possible improvements to your pipeline

1. Develop a better a way to process the images or videos for various light and road conditions.
2. Develop a system to handle small side streets possibly by splitting the total width of the road and create a virtual lane line.
3. Another improvement would be to draw the lines more accurately on curves.