This is the final submission folder for task 2.

There are three code files supplied:

1) edge\_det.cpp → Generates two images namely source image(original\_image), sobel filtered image. It also have track bars for user to manipulate the sobel image.(Helps in shadow removal).

2) final\_task\_2.cpp → This does the actual work. Takes in the sobel filtered image and and the original image as input and generates an Output.png image with lanes detected (only if I am that lucky :p).

3) final\_task\_2\_new.cpp → This is somewhat improved version of final\_task\_2.cpp. In this, the lines above the horizon are neglected and lines having absolute value of inclination less than 25(approx.) degrees are neglected.

\*\*First run the edge\_det.cpp file with image location as command-line argument (Ex : $ ./edge\_det Original\_images/1.png) and then the final\_task\_2.cpp file\*\*

\*\*For Shadow removal we can adjust the vertical gradient in the sobel filter so that Gy/Gx is high. A high value of Gy/Gx represents the vertical(or near vertical) lines which in most cases are our lanes, except for when we are making a turn on road. While the lines detected in shadow are not always vertical (or near vertical) and hence this method works in many cases\*\*

I have included the output I got for the input images.

Hope you like my effort =)

Thank You :)

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