VR Assignment - 1 IMT2019064

Road Lane Line Detection:

Image taken:

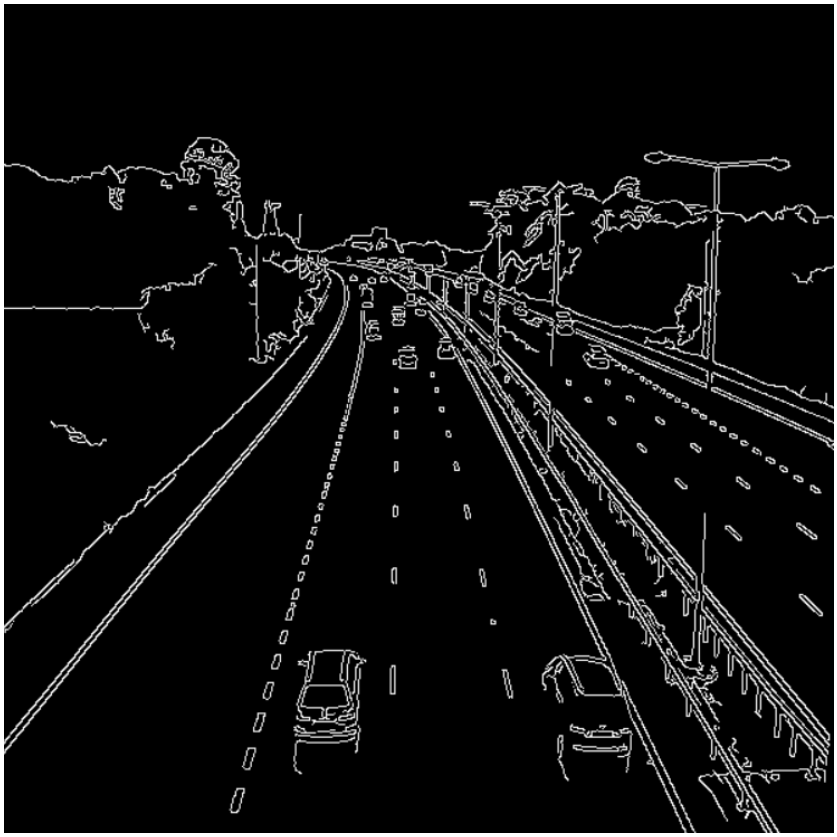
Preprocessing:

- We first resize the image size to (600, 600).
- We then grayscale the resized image.
  Here is the output image:

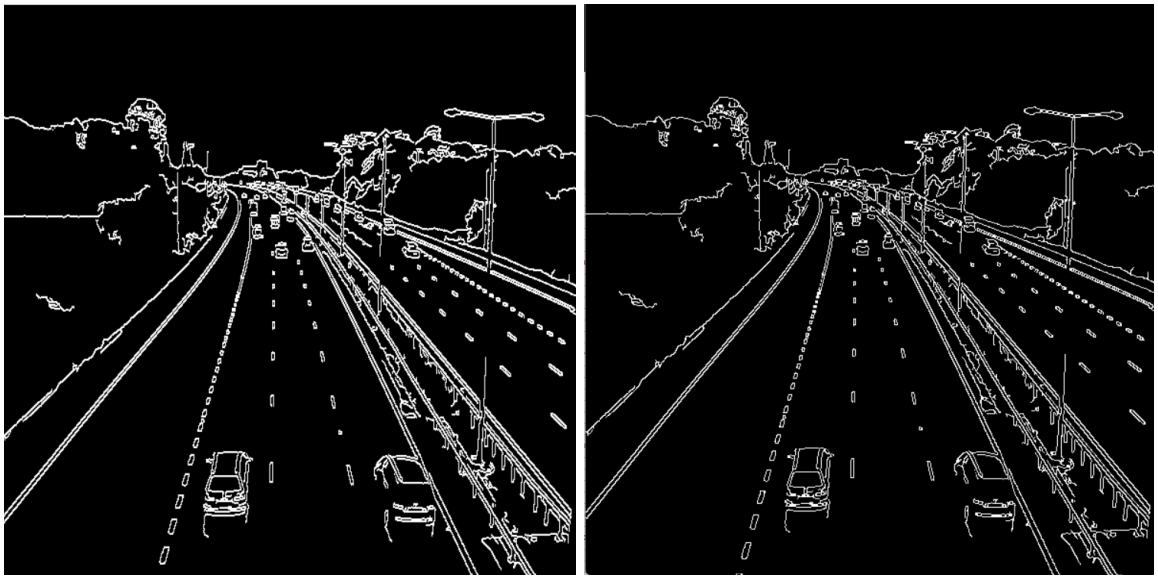
- We use the gaussian blur method to blur the grayscale image. Kernel size is taken as (3, 3).
  The output image is obtained as:

- We then use canny edge detection to get the edge image.

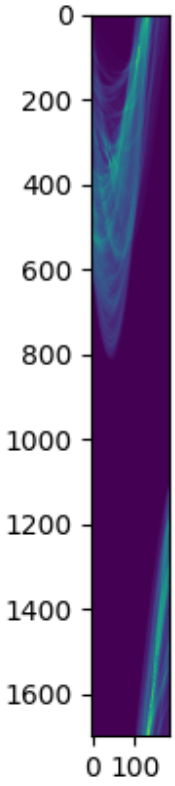
The lower threshold is taken as 50 and the upper threshold is taken as 200.
The output image is obtained as:



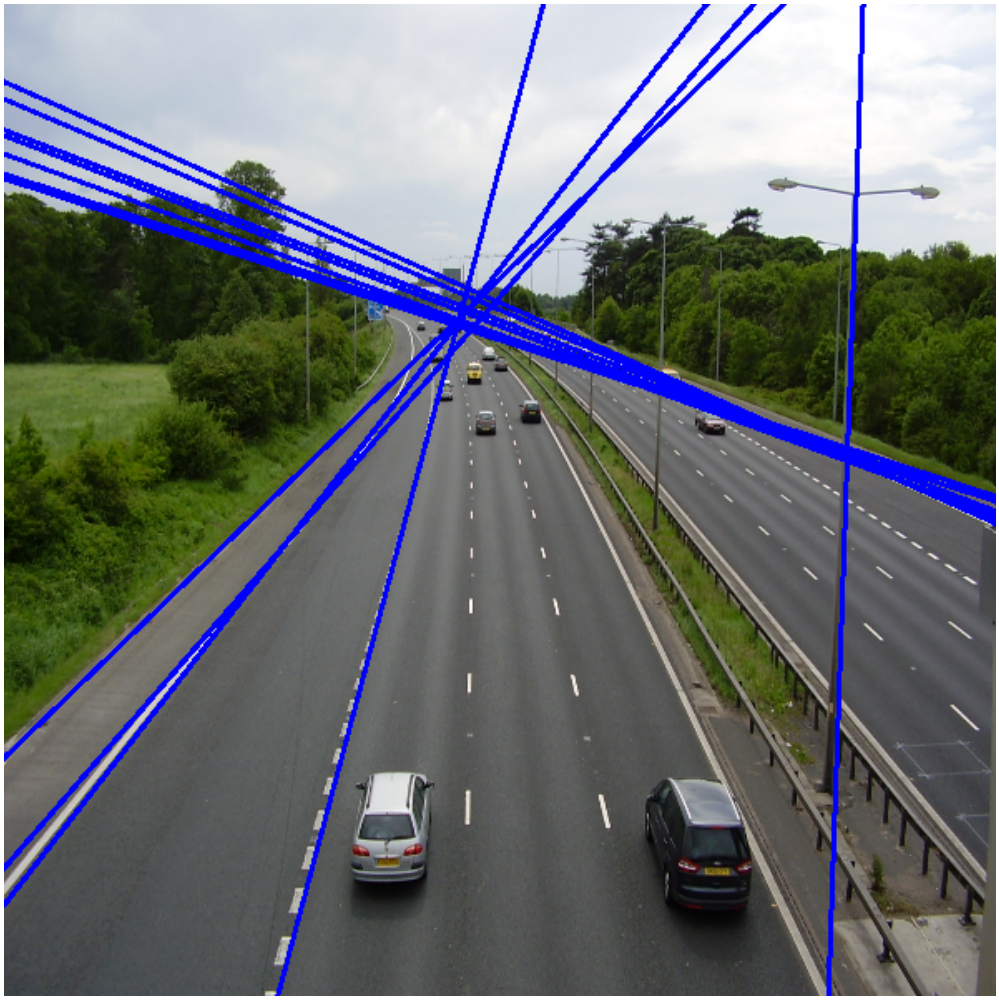
- We then dilate and erode the canny-edged image.
  Dilated and eroded images obtained are:



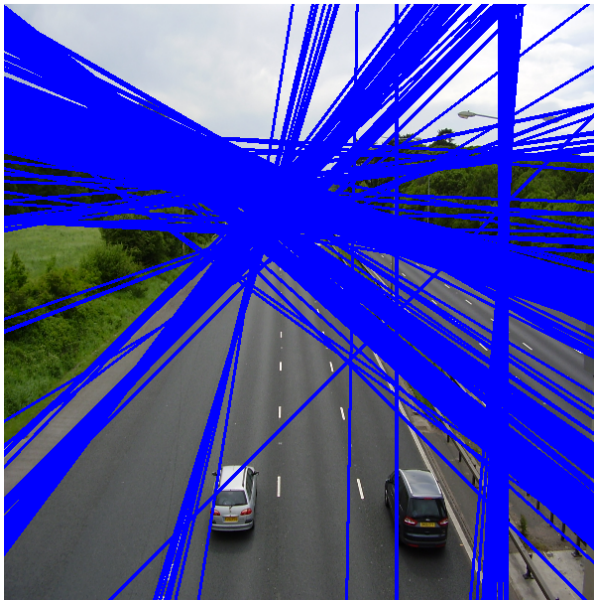
I have also plotted the Hough space diagram.



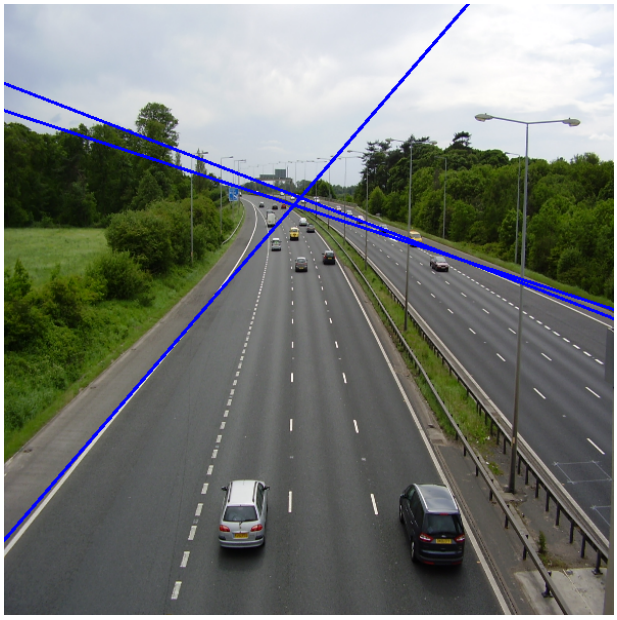
Final Output Image:
Using the threshold value as 245, we get the output image as:



If we take the threshold value as 180, we get the following image:



If we take the threshold value as 250, we get the following image:



Coin Detection:

Image taken:

Preprocessing:

- The original image size is (399, 416). I have resized the image to (100,100) to reduce the run time complexity of the program. It takes about 1-2 mins to get the output image.
- We then grayscale the resized image. We get the image as:

- We use the gaussian blur method to blur the grayscale image. Kernel size is taken as (3, 3).
  For the clarity of the image, for time being I have taken the original image to get the blurred image.

- We then use canny edge detection to get the edge image. The lower threshold is taken as 80 and the upper threshold is taken as 100.

For the clarity of the image, for time being I have taken the original image to get the canny-edged image.

I have tried to adjust the threshold value in order to detect all three circles. The threshold value is taken as 67.
Here is the final output image:

For more clarity of the circle line, I have resized the above image to (400, 400).

If we take the threshold value as 80, we get the following output image:

If we take the threshold value as 60, we get the following output image: