Homework #3

Lane Detection

To implement a simple lane detection using Canny edge detector and Hough transform.

The algorithm can broken down into the following steps:

1. Detect edges using the Canny edge detector.
2. Extract the edges in the region of interest(ROI)
3. Run Hough transform to detect lanes.

1 .Library Required:

```
pip install scikit-image
pip install numpy
pip install matplotlib
```

2 . How to run program

2.1 update image path if needed

```
#Change the image path to test on a different image
imagepath = 'road.jpg'
```

2.2 Run the ***main.py*** with command:

```
# To start
python3 main.py
```

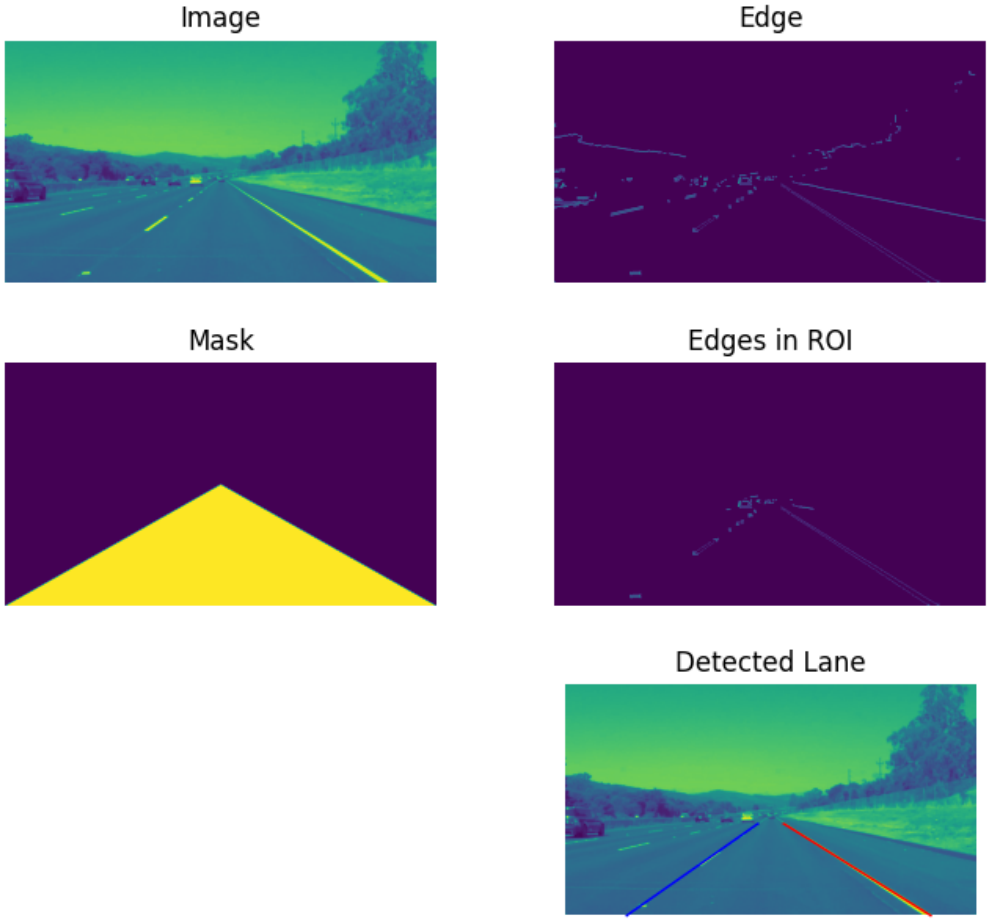
2.3 It will take a while

```
1/5.Lane Detection Loading Image...
-Image Path: road.jpg
2/5.Perfrom Canny Edge detection...
3/5.Perform Hough Transform...
```

```
4/5.Plotting Detected Lane...
5/5.Showing Detected Lane...
```

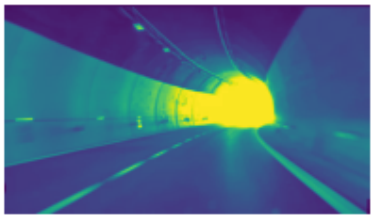
2.4 Result:

2.4.1 provided image

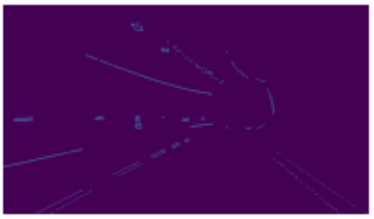


2.4.2 Result 2

Image



Edge



Mask

Edges in ROI

Detected Lane