PROJECT REPORT – 05-06-2019 Ankur Gupta

Problem Statement:

- Estimate the traffic flow (density) from input data.
- Find the distance of objects from camera focal lens based on view point.

Workflow:

Preprocessing

- Divide the data into frames
- Night vision Enhancement (CLAHE)

Background subtraction and Finding Contours

- Tracking of Vehicles
- Counting of vehicles

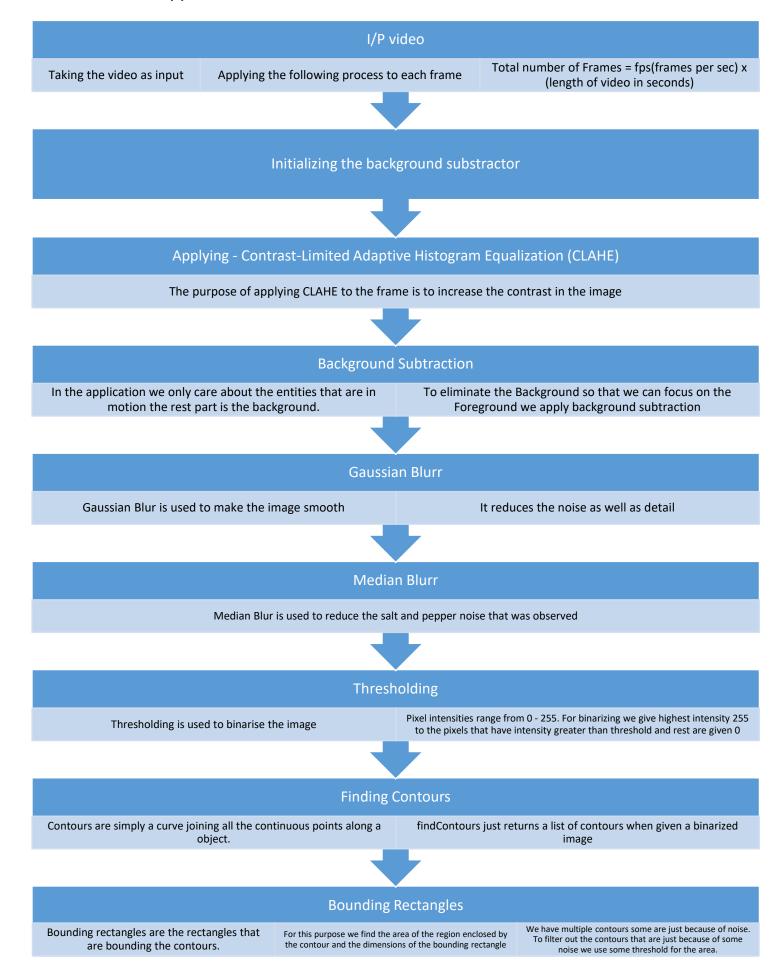
Distance estimation and Recommendation

- Distance computation between the vehicles, using projective geometry and focal length
- Making recommendations based on the distance

Cloud

Uploading the application on cloud

The flow of the application constructed so far:



Accomplishments till now:

- Till now we are able to subtract the background to extract the foreground
- We are also able to enclose each entity in the foreground in a bounding box

Remaining Work:

- We have to track the entities in the foreground
- We have to categorize the entities in the foreground into separate classes.
- We have to find the distance between the entities
- We have to make recommendations based on the distance estimated

Challenges / Observations:

- Elimination of person shadow and Illumination effect
- Multiple contours detected for the same entity
- Occlusion between vehicles
- Remodifying the threshold part and counting the contours based on the frame
- Converting BGR to RGB instead of Grayscale and observe the if the noise has decreased and if contour detection has become more accurate