**Vehicle Counting System**

This Application is used to count the number of vehicle passing through the road. There are many application where it can be used such as in Controlling the traffic of the City and many more.

At first to determine the vehicles we used the difference occurred between 2 frames as moving objects can only create the difference. And then there are three methods to do this in OpenCV

1. Absolute Difference
2. Background Subtractor by the use of KNN
3. Background Subtractor by the use of MOG2

By using all 3 models the minimum noise was with Absolute Difference so I goes with Absolute Difference. We can go with other 2 models also by noise there was large as compared to first one.

After that we converted the video into gray for Contouring. And applied threshold in order to reduce more noise. After this by using 2 coordinates we draw the lmain line and 2 offset line. After this we make a rectangular box bounding the vehicle and then we create the point in the vehicle if that point passes through the line then we increase the count of the vehicle. Also we put contour area to some value in order to reduce some unwanted noise.