**Traffic Light changed based on the density of project**

**Abstract**

In this project we aim to wirte a python script, which can take a real-time video as input and gives number of vehicles present in each frame as output. This program can be used to automatically change the traffic signal when the number of vehicles in some frame cross a threshold value, input video could be fed in through a camera paced on traffic signal tower. Also, since we can get number of vehicles present in every frame, we can calculate the density of vehicles running in the lane corresponding to that camera feed. So, based on the density of vehicles we can set the timer for different traffic signals.

**Language and libraries to be used**

1. Entire program will be coded in python language.

2. For vehicle detection we wish to use YOLO (You Only Look Once) algorithm, pre-trained neural networks will be used to detect objects, basically after detecting all the objects present in every frame and out of those objects, we will calculate the number of vehicles among them.

3. For reading video and other things related to video processing, such as extracting each frame, drawing boxes around detected objects on frame, etc. OpenCV library will be used along with several other basic modules such as numpy, argparse, etc.

**Timeline**

2nd meeting- Object detection part by using neural network.

Final meeting- Everything stated in the abstract.