Lab 4 Assignment

Github user Pierluigi Ferrari (<https://github.com/pierluigiferrari>) created a road traffic dataset consists of around 20,000 images with a resolution of 300x480 RGB and 5 object classes (car, truck, pedestrian, bicyclist, traffic light) for object detection. This dataset was originally released by the Udacity ([https://udacity.com](https://udacity.com/)) and modified by Pierluigi Ferrari. You can download this dataset using the following link (about 900 MB):

<https://drive.google.com/open?id=1tfBFavijh4UTG4cGqIKwhcklLXUDuY0D>

Lab 4 assignment is to develop an object detection model using this dataset. You can use any one of the object detection method discussed in the class such as Faster RCNN, YOLO (any version), SSD, or RetinaNet. You are allowed to use any existing program including example Matlab/Python program discussed in the class. Make sure you train your model using the training data and validate your model using the validation data in the above dataset. Simple use of pre-trained object detector model will not be accepted. Include the performance of your object detector such as precision, recall, or mAP (mean Average Precision) against the validation data.

**Precision** measures how accurate is your predictions. i.e. the percentage of your predictions are correct.

**Recall** measures how good you find all the positives. For example, we can find 80% of the possible positive cases in our top K predictions.

Here are their mathematical definitions:

