**Major challenges faced while implementation:**

* Data Collection:

By data collection, I mean it is difficult to obtain appropriate images for our model training.

For object detection applications, it is important to obtain an image data set such that the object to be localized and classified is labelled precisely. An unlabelled data set is not useful as out model wouldn’t know what to localize or classify.

The data set should be appropriately classified into two sections, one for training and one for testing. Usually the norm/ratio followed for the same is a 4:6 ratio i.e. 40% of the dataset is used for Training and the next 60% is used for Testing.

* Speed of Localization:

For applications in autonomous driving, it is very important that the speed of localization is very important or else it could lead to disastrous outcomes. Along with the speed of localization it is also important to correctly classify objects in its vision. To improve the accuracy in both, it is important to test various algorithms.

And to test these algorithms, it is very important that we emphasize on accurately training our model and prepare our dataset correctly.

* Classification Problem:

One major problem faced in autonomous driving applications are, classification problems. The algorithm should correctly classify b/w many same type of objects. Such as the algorithm should be able to identify multiple similar type of objects in the same frame.

This is a problem we are currently working on.

Size of Images: 80\*160\*3 (RGB)