CAR OBJECT DETECTION

Background

In recent years, many researchers have worked on video cameras, which are considered sensor devices for capturing and recognizing moving vehicles. Video-based systems can capture a wide range of data and are less expensive to install and maintain. It is difficult for a single moving camera to quickly capture information. The main challenge in vehicle video is the variation of the environment, and the headlights are important features for initializing and tracking the vehicle at night.

Problem statement

A classification error is a likelihood of a non-vehicle being classified as a vehicle and a vehicle being classified as a non-vehicle, where a positive sample is an image that contains a vehicle and a negative sample is an image that does not contain a vehicle. Your task is to create an object detection model that can accurately detect vehicles in a video frame or an image using any of the predefined architectures in the TensorFlow Object Detection API.

Requirement

1. For this project, make use of the TensorFlow Object detection API.
2. Only the train data and its dependencies should be downloaded from the Data. Split the train data into train and test. You will be given a file to use for evaluation purposes.

Extras

You can go even further by downloading additional data from other platforms and annotating it to increase the size of your sample. Eg: Google cars

Deliverable

- You must submit a Jupyter Notebook for your Object detection. The notebook should have appropriate comments.
- A screenshot of your tensorboard displaying some of the necessary metrics
- You would be required to give a brief technical presentation on your work.