**L09 Assignment – Object Detection using TensorFlow and Pascal VOC 2007 Dataset**

**Activities:**

* I used TensorFlow and the Pascal VOC 2007 dataset to explore object detection.
* I employed the SSD MobileNet V2 model.
* Some key functions such as find\_images\_with\_classes and plot\_detections were implemented to filter images and visualize detections.

**Results:**

* The model showed balanced performance with a threshold value of 0.5 for detections.
* The model highlighted the importance of computational efficiency.
* Observations indicated better detection of larger objects, with challenges in identifying smaller or occluded objects.

**Reflection:**

* One of the important learnings was how to handle inaccuracies in bounding boxes and improve model performance with limited data.
* This assignment emphasized the need for comprehensive datasets and targeted training for specific objects.
* I gained practical experience with TensorFlow for object detection, understanding the trade-offs between speed and accuracy in real-world applications​.

A diagram of a network

Description automatically generated

MobileNetV2 Model

A car with the hood open

Description automatically generated

Results from MobileNetV2 Model