AI Intern Assignment

Problem statement:
Train an object detection model to extract bounding boxes of number plate on the car. Dataset
consists of images of cars with number plates with annotations in Pascal VOC format. Goal of the
problem is to acheive mAP of atleast 70%.

I had trained 2 different models

1. Yolov5 model on custom dataset
2. Pretrained model to predict 4 points.

Model training is done in Macbook Air M1 chip gpu(7 cores) and inference of 30 images is performed on Google colab cpu.

Yolov5 model gave mAp score of 99% over 100 epochs.
Test inference of 30 images take Means time as 0.4025 sec .
Result is
https://drive.google.com/file/d/1v02O3QwPDjQBt-0ohH0PsyHFLEJuCeRM/view?usp=sharing(proper result with inference time of each individual image in YoloV5_infernce.ipynb)

Resnet150V2 models gave mAP score of 69% on all the images dataset, trained over 300 epochs
Test inference of 30 images had Mean time taken on cpu is 0.49sec
Result
https://drive.google.com/file/d/1i2DOwq_69IRdMBnTi2Vg51v8A-s3MrJT/view?usp=sharing(proper result with inference of each individual image with IOU score in Resent_infernce.ipynb)