TENSOR GO ASSIGNMENT

This project is divided into two parts :

I.   Object detection through YOLOV7
II.   Object tracking through the Sort algorithm.

So, let's discuss them step by step.

For the object detection algorithm, I worked with yolov7. I trained yolov7 on a custom dataset for detecting three classes, namely:

- The person wearing mask
- The person wearing mask incorrectly
- Person not wearing mask

The dataset was drawn from Kaggle. The dataset was in .xml format so I first converted it into yolo format. I used 640 images for training and 640 for testing. After 20 epochs, around 50 minutes of training on google colab, and some Hyperparameter optimization, our model was trained with a precision of around 90%. After the training of yolov7 on our data, I downloaded the trained weights for the tracking part.

For tracking, I used the sort algorithm. I fed my new weights to the algorithm, where the algorithm assigned unique IDs to every detected person and tracked them.

The link of Dataset: https://www.kaggle.com/datasets/andrewmvd/face-mask-detection

The link of google colab :
https://colab.research.google.com/drive/1jKKhA7UiduxqTZ9D8v3Tad3VjdPrhgh5#scrollTo=r
Gsg3pMcnASW