Object Detection and Tracking

In this project we have used latest SOTA model Yolov5 for object detection and tracking using StrongSORT.

STEP1:

Using colab , we initially set up our gpu and installed the dependencies like cloning the yolov5 object detection algorithm from github website. We follow the instructions from github to install yolov5.

NOTE: Yolv5 was trained on 80 labels (EX: Human, cat, dog, car, bike etc...).So if a particular label is of interest to you we can already use the pre-trained model . If your class is not present, you can directly train on those new images you would like to detect using transfer learning.

STEP 2:

Now clone the STRONGSORT tracking algorithm from github and install it using instruction from github. This is a SOTA training model which is better than DeepSORT. It has a similar structure like yolov5 because it is well integrated with yolov5 . You can change the configurations of both object detection and tracking in STRONGSORT in parameters while inference. This makes it a one step process for tracking .

Example For use case:

1. If a child gets lost in a crowd, we can directly track the path of the child where it has gone

2. Track the suspicious car in real time to catch the suspects.