Mask And No Mask

In this Assignment I took following steps :

- Creating Custom Datasets :-

**\*** **Took Images of people with masks and without masks to train my model.**

**\*** **Annotate Images.**

**\*** **Specifying the class labels of objects to detect.**

- Training Custom Model :-

**\* Used YOLO v4 model to train my custom model for detection.**

**\* Split my Datasets for training and validation.**

**\* Trained YOLOv4 model on my Dataset.**

**\* Tested my custom model on my testing video.**

**Result -**

**\* Detected people with masks and without masks.**

**\* Link**

**\* accuracy= mean average precision= 98.28 %**

**0.432567 avg losss**

**https://drive.google.com/file/d/1KM3pFbxviuoz0pHLy5S6eDBI2Aqq3BDn/view**

- Tracking and Giving unique ID :-

**\* Used Deep Sort for Tracking**

**\* Using Deep Sort with my custom YOLO model.**

**Result -**

**\* Gave people unique id.**

**\* Tracking unique id.**

**\* Link**

**https://drive.google.com/file/d/18EeIu6T33agMPr7qLK1DOgR0u9fRAknJ/view**

**Problem -**

**\* When my model detected someone in Frame it gives that ID to Tracker.**

**And my Tracker starts to tracks that ID Frame by Frame**

**\* That is as intended.**

**\* But while it is tracking and in between if person put on mask or**

**remove it tracker will not change its class.**

**\* And keeps on tracking as the first time it detected that object.**

**\* But when that object exit the frame and re enters the frame it detects**

**accurately.**

**Solution -**

**\* This is the first time I came across this kind of problem in tracking.**

**\* I am researching about it and going to check Deep Sort files to see if i**

**find something in those files that can update every frame for new**

**detections.**

- Find distance between many people :-

**\* return coordinate of bounding box**

**\* Calculate the center and find the difference with other bounding box’s**

**Centers.**

- Put information on the video :-

**\* Using simple open cv function cv2.putText printed information on video**

**Like “No Person detected” or ”Maintain Social Distancing”.**

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