MAJOR PROJECT:

from google.colab import drive

drive.mount('/content/drive')

# Change the directory to where you want to work

%cd /content/

# Clone the YOLOv5 repository

!git clone https://github.com/ultralytics/yolov5.git

%cd yolov5

# Install required dependencies

!pip install -r requirements.txt

%cd /content/yolov5

# Run training command

!python train.py --img 640 --batch 16 --epochs 10 --data /content/yolov5/data.yaml --weights yolov5s.pt --cache

# Navigate to the YOLOv5 directory

%cd /content/yolov5

# Test on a single image

!python detect.py --weights runs/train/exp/weights/best.pt --img 640 --conf 0.25 --source /content/drive/MyDrive/Major Project DataSet/Yolo Frames/Test\_dataset

# Test on a folder of images

!python detect.py --weights runs/train/exp/weights/best.pt --img 640 --conf 0.25 --source /content/drive/MyDrive/Major Project DataSet/Yolo Frames/Test\_dataset

# Run inference on images located in a folder in Google Drive

!!python detect.py --weights runs/train/exp/weights/best.pt --imgsz 640 --conf-thres 0.25 --source "/content/drive/MyDrive/Major Project DataSet/Yolo Frames/Test\_dataset"

# Navigate to the YOLOv5 directory

%cd /content/yolov5

# Run YOLO on a video from Google Drive

!python detect.py --weights runs/train/exp/weights/best.pt \

--imgsz 640 \

--conf-thres 0.25 \

--source "/content/drive/MyDrive/Major Project DataSet/7Sept Videos" \

--save-txt --save-conf --save-crop

Create data.yaml file

train: /content/drive/MyDrive/Major Project DataSet/Yolo Frames/Train\_Dataset # Path to training images

val: /content/drive/MyDrive/Major Project DataSet/Yolo Frames/Test\_dataset # Path to validation images

nc: 4 # Number of classes

names: ['eating', 'walking', 'sleeping','writing'] # List of class names

Add this file to yolov5 directory

To check the images and videos:

Cd Yolov5/runs/detect-all details about model testing

Cd Yolov5/runs/train—-all details on model training

Confusion matrix and all details are present here

Use gpu run time in collab