**YOLOv5 Model for Object Detection**

**Step 1: Setup YOLOv5 Environment**

Clone YOLOv5 Repository:  
  
!git clone https://github.com/ultralytics/yolov5.git

%cd yolov5

!pip install -r requirements.txt

**Step 2: Prepare Dataset**

Dataset Preparation Ensure your dataset is in the YOLO format with labels and images in a structured directory. Create a custom.yaml file for your dataset configuration:

train: ../Data/train

val: ../Data/val

nc: 6

names: [ 'Hello', 'IloveYou', ..., 'No' ]

**Step 3: Training**

Train YOLOv5 Model:

import os

# Run YOLOv5 training

os.system("python train.py --img 416 --batch 16 --epochs 50 --data custom.yaml --weights yolov5s.pt --cache")

Or you can just use the python notebook to ease the process of getting results.

**Step 4: Detection**

Run YOLOv5 Detection:

import os

# Run YOLOv5 detection

os.system("python detect.py --weights runs/train/exp/weights/best.pt --img 416 --conf 0.5 --source 0")

**Additional Notes:**

* **Paths:** Ensure all paths are correctly set up for your specific environment.
* **Dependencies:** Install all necessary Python packages before running the scripts.
* **Images and Labels:** Place your images and labels in appropriate directories.