**Object Detection Pipeline**

Object detection is a computer technology related to computer vision and image processing that deals with detecting instances of semantic objects of a certain class in digital images and videos. Well-researched domains of object detection include face detection and pedestrian detection

Steps to train object detection using pretrained models:

1. Dataset preparation - [Link](https://docs.google.com/document/d/1RfyEjrqUWL_NQjj1rRdMpNEg1UfdnqI_3HMrsj2K_P8/edit)
2. Augmentation - [Link](https://docs.google.com/document/d/1vcdVNPAt6gFn4_qggUW2T2Ej1MeGdrzig3lCqntBXdw/edit#)
3. Select Architecture like YOLO, SSD and RCNN.
4. Train
5. Evaluate

**Steps to train YOLOv5 with Person class**

1. In order to clone repository follow steps mention in this: [Actual Document](https://github.com/ultralytics/yolov5/wiki/Train-Custom-Data)
2. Download Person Dataset -
   1. Sheetal -1998, Voco - 9590(MP-3479, Single- 6111)
3. Download Preprocessing Scripts -
4. Create and modify person\_class.yaml with the help of data/coco128.yaml
5. Modify “create\_dataset\_for\_unique\_classes.py” and choose classes that need to be trained and Run.
6. Modify “xml\_to\_csv.py” and Run.
7. python train.py --img 640 --batch 8 --epochs 10 --data person\_class.yaml --weights yolov5s.pt
8. python detect.py --weights runs/train/exp/weights/best.pt --source /home/prabodh/workspace/Person\_Detector/Evaluate\_model/1\_Dataset/V\_Jan\_2000 --data data/person\_class.yaml