

ASSIGNMENT 6

Object Detection



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CODE-

```
import cv2
import numpy as np
thres = 0.45 # Threshold to detect object
nms\_threshold = 0.2
cap = cv2.VideoCapture(0)
cap.set(3,1280)
configPath =' haarcascade_objectdetection.pbtxt'
weightsPath = 'haarcascade_allobjects.pb'
net = cv2.dnn_DetectionModel(weightsPath,configPath)
net.setInputSize(320,320)
net.setInputScale(1.0/127.5)
net.setInputMean((127.5, 127.5, 127.5))
net.setInputSwapRB(True)
while True:
  success,img = cap.read()
  classIds, confs, bbox = net.detect(img,confThreshold=thres)
  bbox = list(bbox)
  confs = list(np.array(confs).reshape(1,-1)[0])
  confs = list(map(float,confs))
  print(confs)
  indices = cv2.dnn.NMSBoxes(bbox,confs,thres,nms_threshold)
  print(indices)
  for i in indices:
```

```
i = i[0] \\ box = bbox[i] \\ x,y,w,h = box[0],box[1],box[2],box[3] \\ cv2.rectangle(img, (x,y),(x+w,h+y), color=(0, 255, 0), thickness=2) \\ cv2.putText(img, 'Object Detected', (x,y-10), cv2.FONT_HERSHEY_COMPLEX_SMALL, 1, (255,0,0), 4)
```

```
cv2.imshow("Output",img)

Key=cv2.waitKey(1)

if Key==ord('q'):

#release the camera

cap.release()

#destroy all windows

cv2.destroyAllWindows()

break
```

OUTPUT-



