

# ASSIGNMENT-6

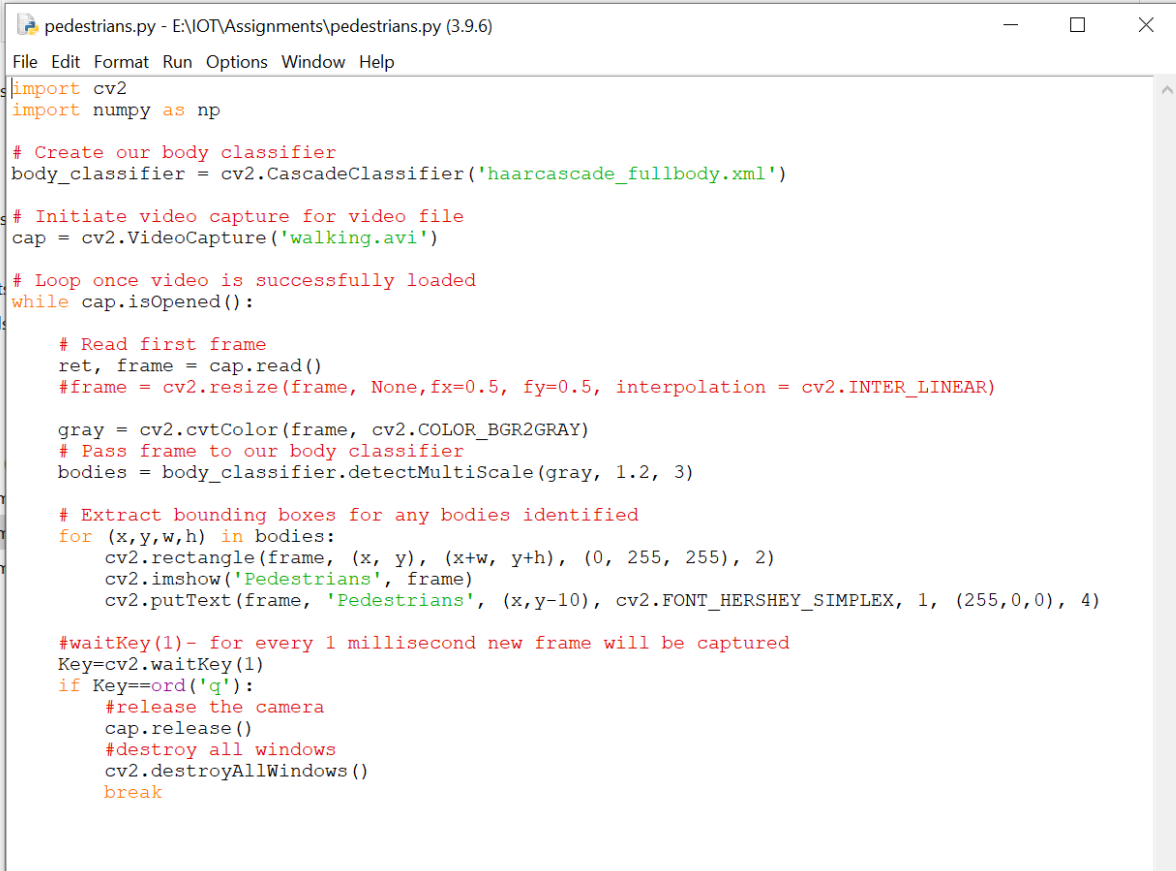
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**Develop a python code to detect any object using Haar cascade classifier.**

**CODE:**

A screenshot of a Python IDE window titled 'pedestrians.py - E:\IOT\Assignments\pedestrians.py (3.9.6)'. The window contains a Python script for detecting pedestrians using a Haar cascade classifier. The code imports cv2 and numpy, creates a CascadeClassifier with 'haarcascade\_fullbody.xml', captures video from 'walking.avi', and enters a loop to process frames. It resizes frames, converts them to grayscale, and uses the classifier to detect bodies. Bounding boxes are drawn around detected pedestrians, and the word 'Pedestrians' is printed on the frame. The loop is terminated by pressing the 'q' key.

```
import cv2
import numpy as np

# Create our body classifier
body_classifier = cv2.CascadeClassifier('haarcascade_fullbody.xml')

# Initiate video capture for video file
cap = cv2.VideoCapture('walking.avi')

# Loop once video is successfully loaded
while cap.isOpened():

    # Read first frame
    ret, frame = cap.read()
    #frame = cv2.resize(frame, None,fx=0.5, fy=0.5, interpolation = cv2.INTER_LINEAR)

    gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
    # Pass frame to our body classifier
    bodies = body_classifier.detectMultiScale(gray, 1.2, 3)

    # Extract bounding boxes for any bodies identified
    for (x,y,w,h) in bodies:
        cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 255), 2)
        cv2.imshow('Pedestrians', frame)
        cv2.putText(frame, 'Pedestrians', (x,y-10), cv2.FONT_HERSHEY_SIMPLEX, 1, (255,0,0), 4)

    #waitKey(1)- for every 1 millisecond new frame will be captured
    Key=cv2.waitKey(1)
    if Key==ord('q'):
        #release the camera
        cap.release()
        #destroy all windows
        cv2.destroyAllWindows()
        break
```

import cv2

import numpy as np

# Create our body classifier

body\_classifier = cv2.CascadeClassifier('haarcascade\_fullbody.xml')

```

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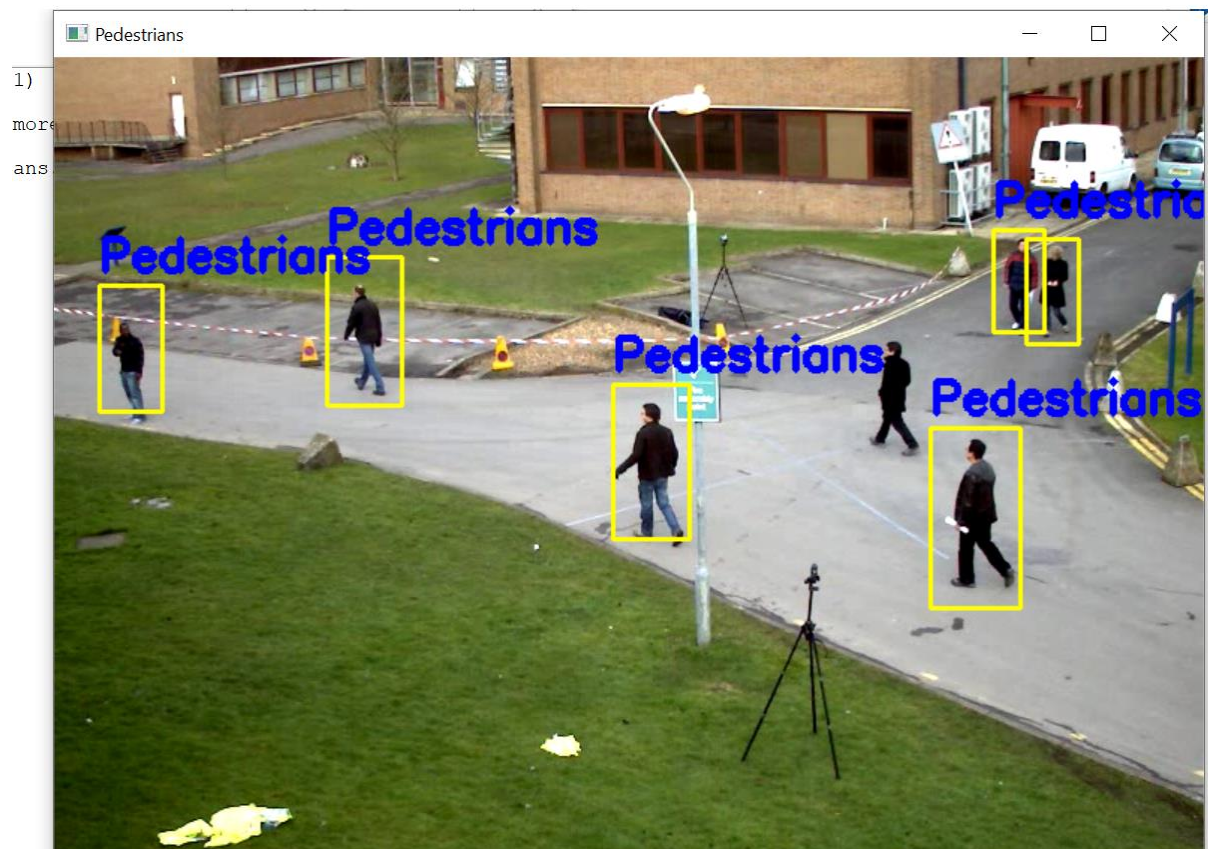
    if Key==ord('q'):
        #release the camera
        cap.release()

        #destroy all windows
        cv2.destroyAllWindows()

        break

```

## OUTPUT:



By using HAAR CASCADE, the python code detected Pedestrains who are walking the streets.