

ASSIGNMENT-6

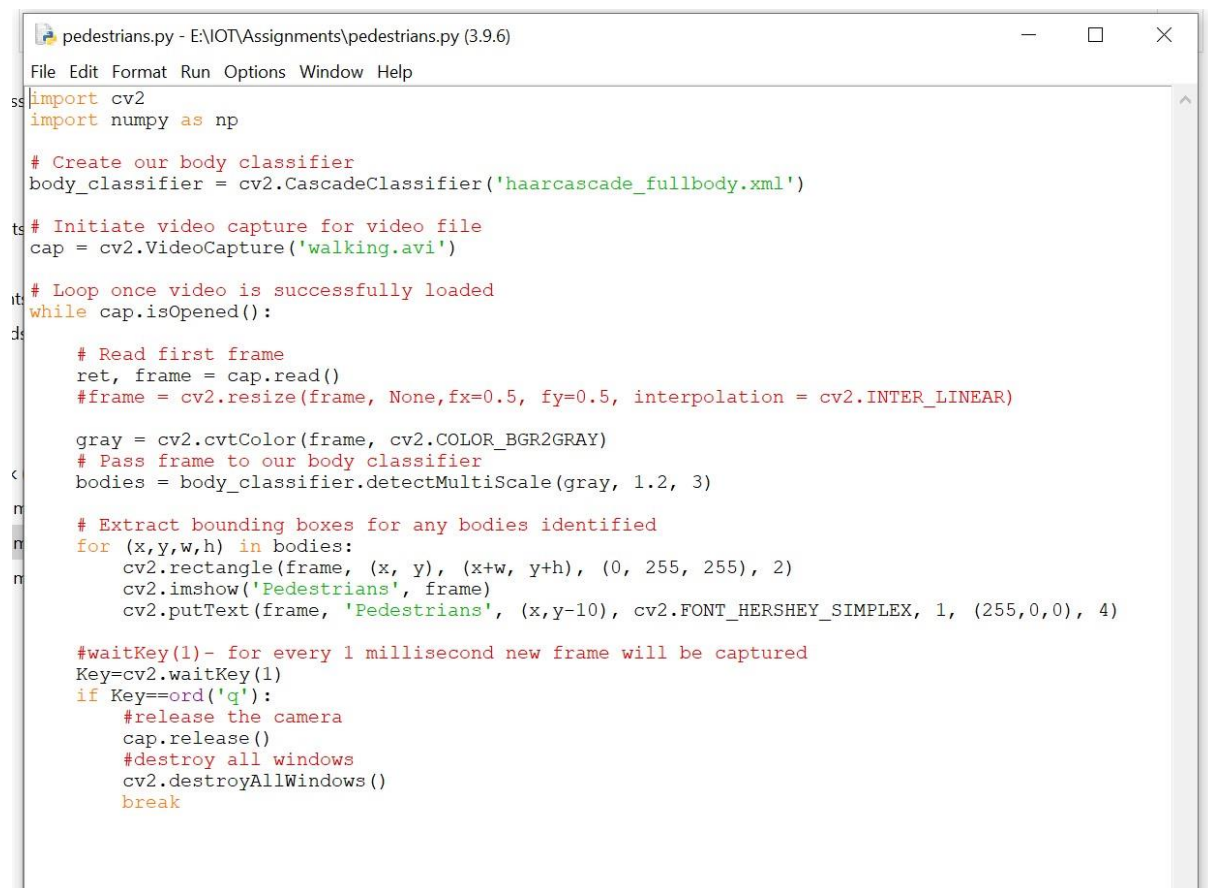
K.Surendra Babu

18BEC7090

Surendra.18bec7090@vitap.ac.in

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 detectMultiScale to find bodies. Bounding boxes are drawn, and the word 'Pedestrians' is printed on the frame. A 'q' key press triggers the release of the camera and destruction of windows.

```
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
```

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numpy as np

```

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break
```

OUTPUT:



By using HAAR CASCADE classifier, the python code detected Pedestrains from video who are walking on the streets.