VIT-IoT (INDUSTRY CERTIFICATE INTERNSHIP PROGRAM)

ASSIGNMENT -6

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

Code:-

```
import cv2

import datetime

cascade_face = cv2.CascadeClassifier('haarcascade_frontalface_default.xml')

cascade_eye = cv2.CascadeClassifier('haarcascade_eye.xml')

cascade_smile = cv2.CascadeClassifier('haarcascade_smile.xml')

vc = cv2.VideoCapture(0)

while True:

    def detection(grayscale, img):

        face = cascade_face.detectMultiScale(grayscale, 1.3, 5)

        for (x_face, y_face, w_face, h_face) in face:

            cv2.rectangle(img, (x_face, y_face), (x_face+w_face, y_face+h_face), (255, 130, 0), 2)

            ri_grayscale = grayscale[y_face:y_face+h_face, x_face:x_face+w_face]

            ri_color = img[y_face:y_face+h_face, x_face:x_face+w_face]

            eye = cascade_eye.detectMultiScale(ri_grayscale, 1.2, 18)
```

```python
        for (x_eye, y_eye, w_eye, h_eye) in eye:

            cv2.rectangle(ri_color,(x_eye, y_eye),(x_eye+w_eye, y_eye+h_eye), (0, 180, 60), 2)

        smile = cascade_smile.detectMultiScale(ri_grayscale, 1.7, 20)


        for (x_smile, y_smile, w_smile, h_smile) in smile:

            cv2.rectangle(ri_color,(x_smile, y_smile),(x_smile+w_smile, y_smile+h_smile), (255, 0, 130), 2)
    return img

_, img = vc.read()

  grayscale = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

  picname=datetime.datetime.now().strftime("FACE_%y-%m-%d-%H-%M")

  cv2.imwrite(picname+".jpg",img)

  final = detection(grayscale, img)

  cv2.imshow('Video', final)

  if cv2.waitKey(1) & 0xFF == ord('q'):

      break

vc.release()

cv2.destroyAllWindows()
```

output:-

it will recognize my mouth but not take a pic because I am not smiling

unable to show the output due few errors