Assign-06

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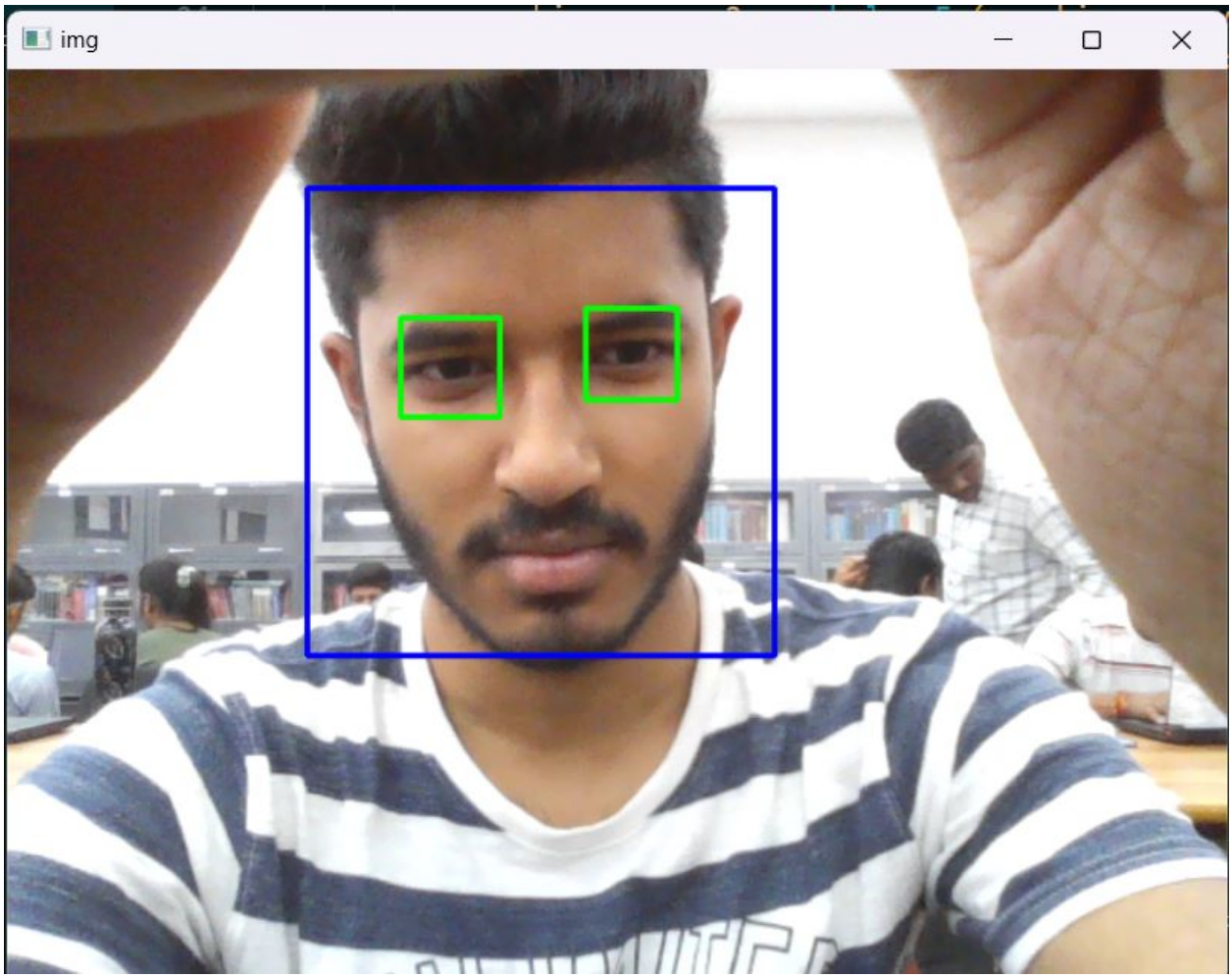
Code:

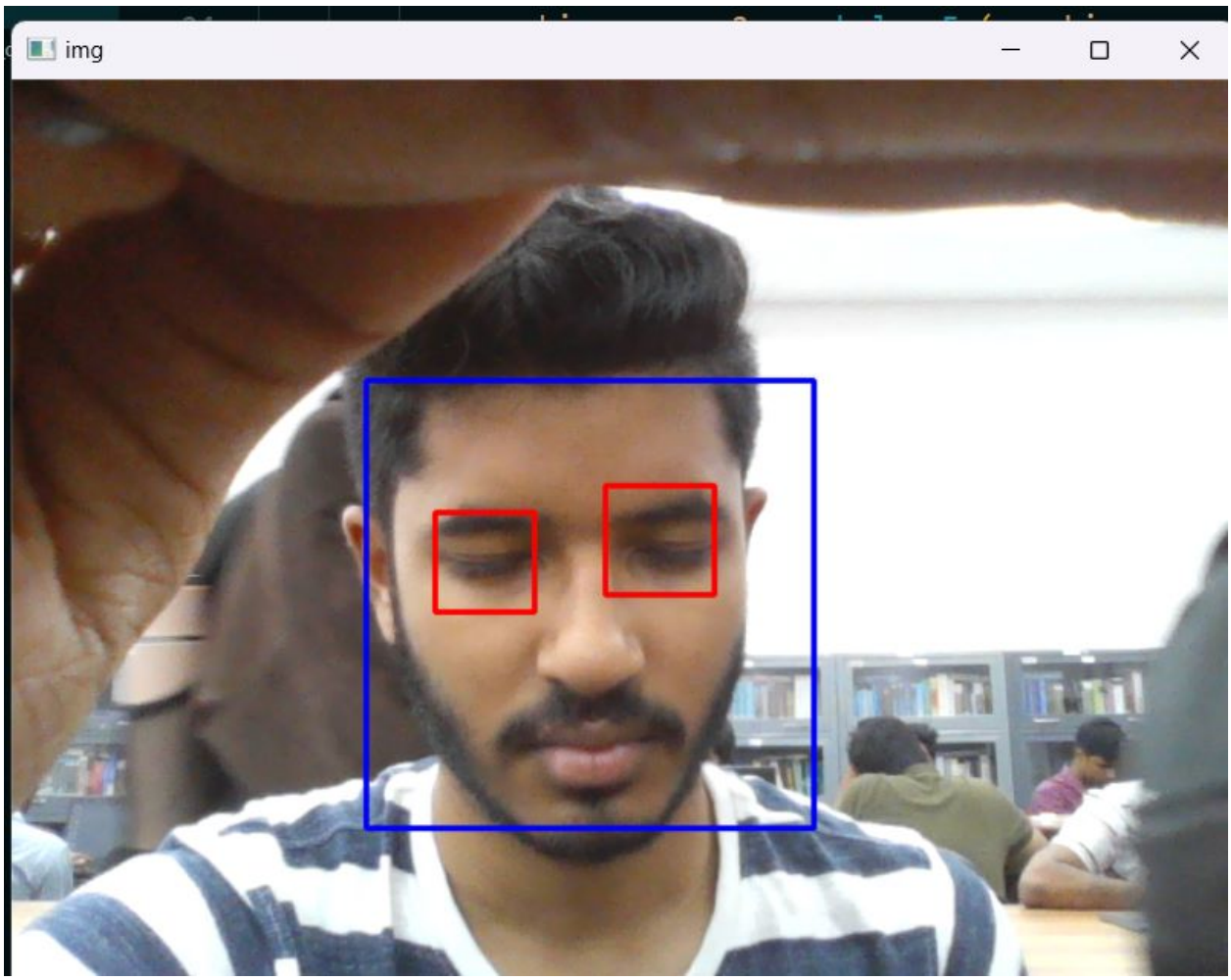
as06.py > ...

```python
import numpy as np
import cv2

face_cascade = cv2.CascadeClassifier('haarcascade_frontalface_default.xml')
eye_cascade = cv2.CascadeClassifier('haarcascade_eye.xml')
cap = cv2.VideoCapture(0)
while True:
    ret, img = cap.read()
    gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
    faces = face_cascade.detectMultiScale(gray, 1.3, 5)

    for (x, y, w, h) in faces:
        cv2.rectangle(img, (x, y), (x+w, y+h), (255, 0, 0), 2)
        roi_gray = gray[y:y+h, x:x+w]
        roi_color = img[y:y+h, x:x+w]

        eyes = eye_cascade.detectMultiScale(roi_gray)
        for (ex, ey, ew, eh) in eyes:
            eye_gray = roi_gray[ey:ey+eh,
            _, eye_binary = cv2.threshold(eye_gray, 50, 255, cv2.THRESH_BINARY_INV)
            kernel = cv2.getStructuringElement(cv2.MORPH_ELLIPSE, (3, 3))
            eye_binary = cv2.morphologyEx(eye_binary, cv2.MORPH_CLOSE, kernel, iterations=3)
            contours, _ = cv2.findContours(eye_binary, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_NONE)
            for contour in contours:
                area = cv2.contourArea(contour)
                if area < 100:
                    cv2.rectangle(roi_color, (ex, ey), (ex+ew, ey+eh), (0, 0, 255), 2)
                else:
                    cv2.rectangle(roi_color, (ex, ey), (ex+ew, ey+eh), (0, 255, 0), 2)

    cv2.imshow('img', img)
    k = cv2.waitKey(30) & 0xff
    if k == 27:
        break

cap.release()
cv2.destroyAllWindows()
```

(variable) eye_gray: Any

Output:

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