Ahmedabad University

CSE541 Computer Vision

Weekly Report - 3

Section - 1

Submitted to faculty: Prof. Mehul Raval

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Tasks Performed:

- We have first processed the image with face cascade to detect face and then we have crop the image.
- After obtaining the cropped image, we have run eye cascade over it to detect the eyes as shown in the images attached
- Here, we need to crop the face because without cropping the face, if we run the eye cascade, there were many false detections as shown in image attached.

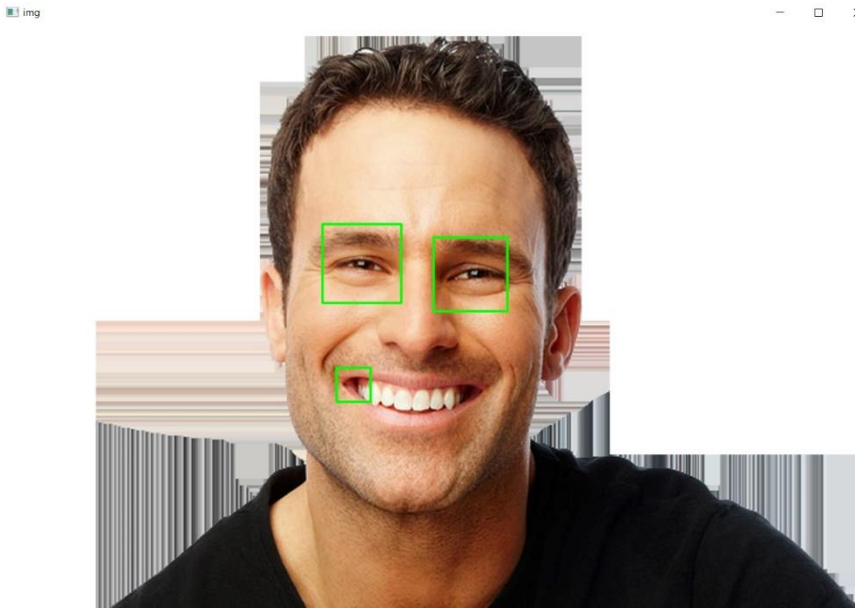
Code:

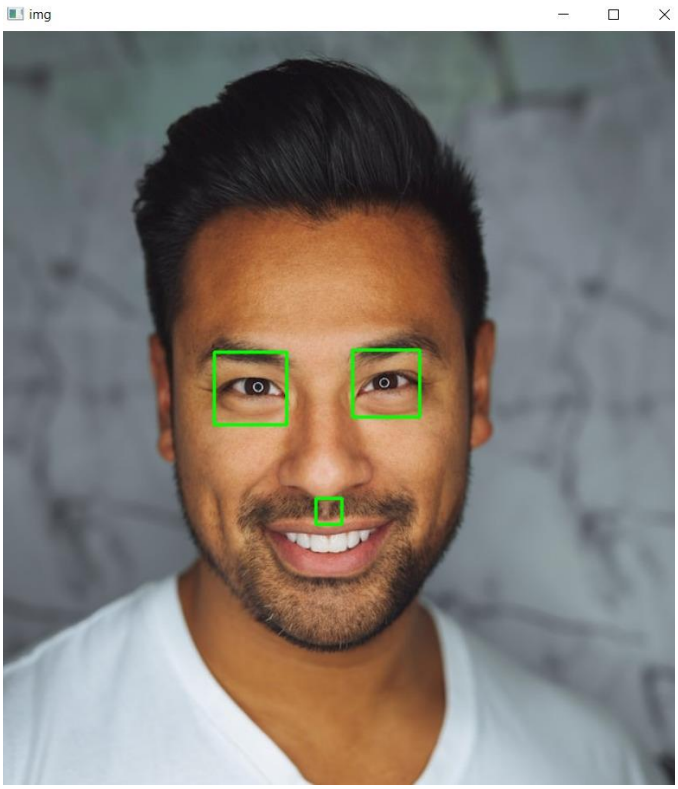
```
import numpy as np
import cv2
face_cascade = cv2.CascadeClassifier("opencv\data\haarcascades\haarcascade_frontalface_default.xml")
eye_cascade = cv2.CascadeClassifier("opencv\data\haarcascades\haarcascade_eye.xml")
#save the image(i) in the same directory
img = cv2.imread("joseph-gonzalez-iFgRcqHznqg-unsplash (1).jpg")
gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
faces = face_cascade.detectMultiScale(gray, 1.3, 5)
for (x,y,w,h) in faces:

    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:
        cv2.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
cv2.imshow('img',img)
cv2.waitKey(0)
cv2.destroyAllWindows()

```

Correct Detection Images:





False Detection Images: