

## FACE DETECTION REPORT

First, I downloaded “haarcascade\_frontalface\_default.xml” file from the open cv and kept it in the same directory as my code.

And also, my test images are also in the same directory.

### CODE :

```
import imutils
import cv2

print("Give the file name of the image including the extension (.jpeg/.jpg...)")
image = input()
minNeighbors = int(input("give minNeighbors value :"))
detector = cv2.CascadeClassifier("haarcascade_frontalface_default.xml")

image = cv2.imread(image)
image = imutils.resize(image, width=500)

gray_image = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
rects = detector.detectMultiScale(gray_image,
scaleFactor=1.05,minNeighbors=minNeighbors, minSize=(30,
30),flags=cv2.CASCADE_SCALE_IMAGE)
for (x, y, w, h) in rects:
    cv2.rectangle(image, (x, y), (x + w, y + h), (0, 255, 0), 1)
cv2.imshow("Image", image)
cv2.waitKey(120000)
```

So,in this code, if your Image has less number of human faces then give minNeighbors value high as >30

If you have more number of faces then give minNeighbors value low as <9

This is because:

minNeighbors: **How many neighbors each window should have for the area in the window to be considered a face.** The cascade classifier will detect multiple windows around a face. This parameter controls how many rectangles (neighbors) need to be detected for the window to be labeled a face.

Case 1:

```
Give the file name of the image including the extension (.jpeg/.jpg...)
try5.jpeg
give minNeighbors value :2
```



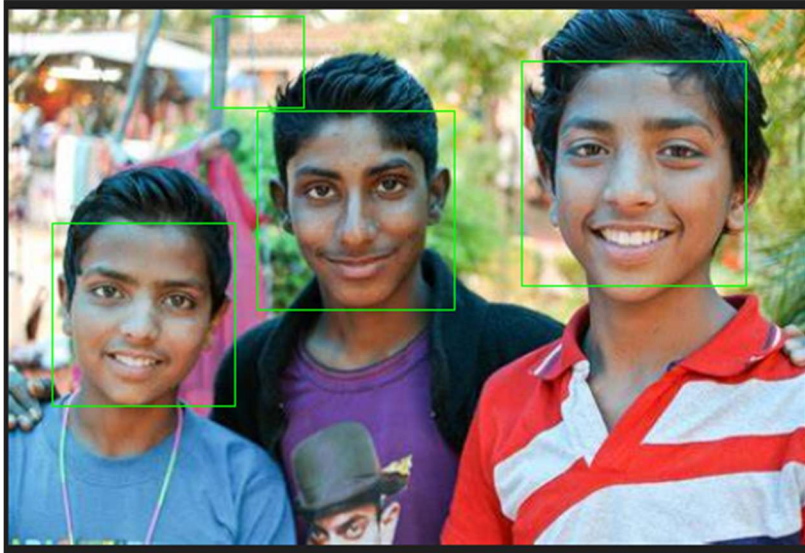
Case 2:

```
Give the file name of the image including the extension (.jpeg/.jpg...)
try5.jpeg
give minNeighbors value :25
```



Case 3:

```
Give the file name of the image including the extension (.jpeg/.jpg...)
try7.jpeg
give minNeighbors value :7
```



Case 4:

```
Give the file name of the image including the extension (.jpeg/.jpg...)
try7.jpeg
give minNeighbors value :30
```

