

The background features a soft, watercolor-style pink wash. Overlaid on this are several pink roses with green leaves, positioned in the top-left and bottom-right corners. A thin, double-lined gold circle is centered on the page, framing the text.

Task 4:

Run any example OpenCV

Manar AL Zahrani

# Face & Eye Detection

1-Download library opencv-python+Numpy from File>setting..etc.

2-Save file `haarcascade_frontalface_default.xml`

3-Save file `haarcascade_eye.xml`

4-Put in the same folder of project.

5- Write the code

```
import numpy as np
import cv2 as cv
face_cascade = cv.CascadeClassifier('haarcascade_frontalface_default.xml')
eye_cascade = cv.CascadeClassifier('haarcascade_eye.xml')
img = cv.imread('face.jpg')
gray = cv.cvtColor(img, cv.COLOR_BGR2GRAY)

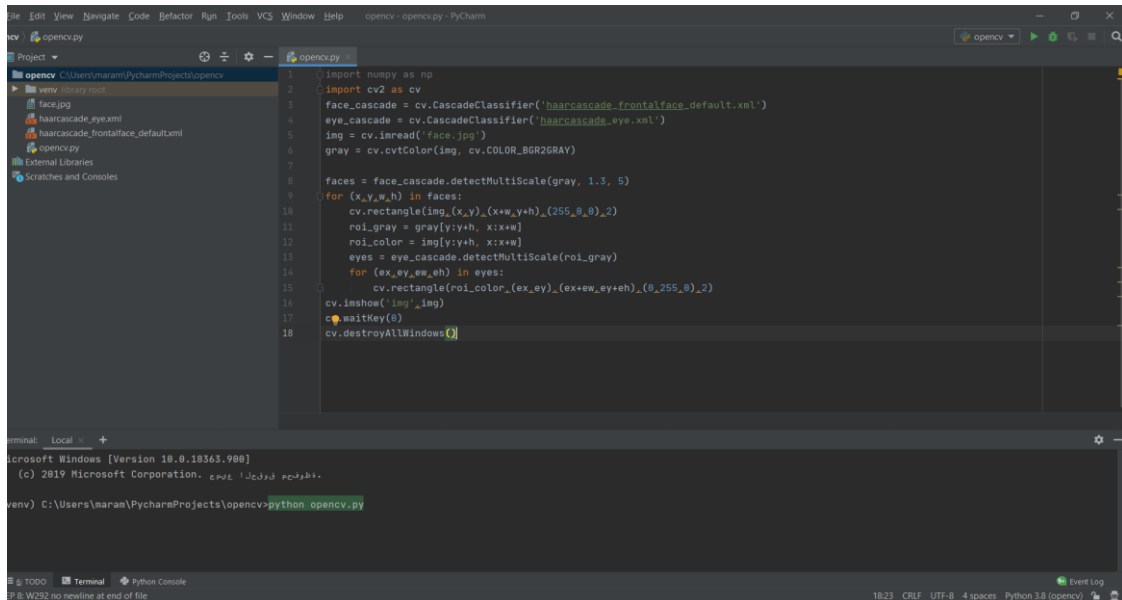
faces = face_cascade.detectMultiScale(gray, 1.3, 5)
for (x,y,w,h) in faces:
    cv.rectangle(img,(x,y),(x+w,y+h),(255,0,0),2)
    roi_gray = gray[y:y+h, x:x+w]
    roi_color = img[y:y+h, x:x+w]
    eyes = eye_cascade.detectMultiScale(roi_color)
    for (ex,ey,ew,eh) in eyes:
        cv.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
cv.imshow('img',img)
cv.waitKey(0)
cv.destroyAllWindows()
```

6-Writ the python name of project.py in the terminal



```
Terminal: Local +
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation. جميع الحقوق محفوظة.
(venv) C:\Users\maram\PycharmProjects\opencv>python opencv.py
```

# Result



```
1 import numpy as np
2 import cv2 as cv
3 face_cascade = cv.CascadeClassifier('haarcascade_frontalface_default.xml')
4 eye_cascade = cv.CascadeClassifier('haarcascade_eye.xml')
5 img = cv.imread('face.jpg')
6 gray = cv.cvtColor(img, cv.COLOR_BGR2GRAY)
7
8 faces = face_cascade.detectMultiScale(gray, 1.3, 5)
9 for (x,y,w,h) in faces:
10     cv.rectangle(img,(x,y),(x+w,y+h),(255,0,0),2)
11     roi_gray = gray[y:y+h, x:x+w]
12     roi_color = img[y:y+h, x:x+w]
13     eyes = eye_cascade.detectMultiScale(roi_gray)
14     for (ex,ey,ew,eh) in eyes:
15         cv.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
16 cv.imshow('img',img)
17 cv.waitKey(0)
18 cv.destroyAllWindows()
```

