

Insert 8 to 10 image of your self in system they are single or group images doesn't matter.

1. Make red color circled which contain your face pixels in the Image.
2. Make a square block on the image where you are present.
3. Merge the images of yourself with different weights like image_1 0.7 and image_2 0.3 and also try some other which you will like.
4. take Images of your self and show in to array then change into data frame. Atleast 10 images and last column contain your name as label

```
In [1]: ## import necessary linbraries  
import cv2  
import pandas as pd  
import numpy as np  
import matplotlib.pyplot as plt
```

Task 1

1. Make red color circled which contain your face pixels in the Image.

```
In [10]: ## Task 1
data = [{"path": '../OpenCvDataSet/mypic/1.jpg', "name": "Ghufran", "cen_coord": (135, 50), "radius": 55},
        {"path": '../OpenCvDataSet/mypic/2.jpg', "name": "Usama", "cen_coord": (380, 210), "radius": 30},
        {"path": '../OpenCvDataSet/mypic/3.jpg', "name": "Tahir", "cen_coord": (250, 195), "radius": 30},
        {"path": '../OpenCvDataSet/mypic/4.jpg', "name": "Ghufran", "cen_coord": (285, 75), "radius": 40}]

for i in data:
    img = cv2.imread(i["path"])
    img = cv2.resize(img, (500, 500))
    window_name = 'Image'

    image = cv2.circle(img, i["cen_coord"], i["radius"], (0, 0, 255), 2)

    img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB) ## t

    cv2.imshow(window_name, image)
    cv2.waitKey(1000)
    cv2.destroyAllWindows()

    plt.imshow(img_rgb)
    plt.title(i["name"])
    plt.axis('off') # Turn off axis labels
    plt.show()
```

Ghufran



Usama



Tahir



Ghufran



Task 2

2. Make a square block on the image where you are present.

```
In [9]: data = [{"path": '../OpenCvDataSet/mypic/1.jpg', "name": "Ghufran", "x": 90, "y": 30, "z": 100, "n": 70},
                {"path": '../OpenCvDataSet/mypic/2.jpg', "name": "Usama", "x": 180, "y": 200, "z": 50, "n": 40},
                {"path": '../OpenCvDataSet/mypic/3.jpg', "name": "Tahir", "x": 230, "y": 180, "z": 50, "n": 40},
                {"path": '../OpenCvDataSet/mypic/4.jpg', "name": "Ghufran", "x": 250, "y": 30, "z": 70, "n": 100}]

for i in data:
    img = cv2.imread(i["path"])
    img = cv2.resize(img, (500, 500))
    x = i["x"]
    y = i["y"]
    z = i["z"]
    n = i["n"]

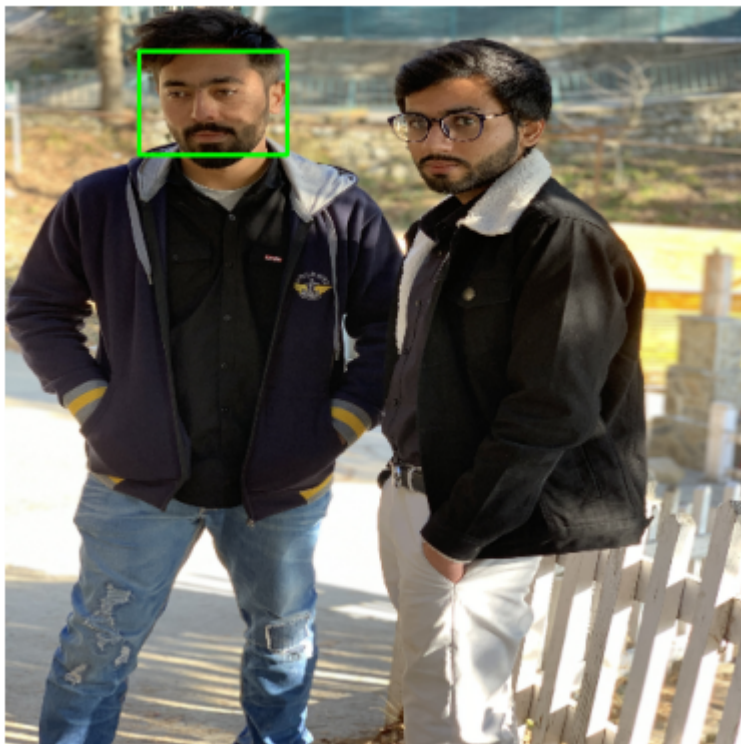
    # Draw a rectangle on the image
    cv2.rectangle(img, (x, y), (x+z, y+n), (0, 255, 0), 2)

    img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)

    # Display the image with the box
    cv2.imshow("Image with Box", img)
    cv2.waitKey(1000)
    cv2.destroyAllWindows()

    plt.imshow(img_rgb)
    plt.title(i["name"])
    plt.axis('off') # Turn off axis labels
    plt.show()
```

Ghufran



Usama



Tahir



Ghufran



Task 3

3. Merge the images of yourself with different weights like image_1 0.7 and image_2 0.3 and also try some other which you will like.

```
In [10]: src1 = cv2.imread('../OpenCvDataSet/mypic/1.jpg')
src2 = cv2.imread('../OpenCvDataSet/mypic/2.jpg')
src1= cv2.resize(src1 ,(600,600))
src2= cv2.resize(src2 ,(600,600))
# add or blend the images
dst = cv2.addWeighted(src1, 0.7, src2, 0.2,0.0)

img_rgb = cv2.cvtColor(dst, cv2.COLOR_BGR2RGB)

cv2.imshow("Image with Box", dst)
cv2.waitKey(10)
cv2.destroyAllWindows()

plt.imshow(img_rgb)
plt.axis('off') # Turn off axis labels
plt.show()
```



Task 4

4. Take Images of your self and show in to array then change into data frame. Atleast 10 images and last column contain your name as label

```
In [6]: data = [{"path": '../OpenCvDataSet/mypic/1.jpg', "name": "Ghufran"},
                {"path": '../OpenCvDataSet/mypic/2.jpg', "name": "Hanza"},
                {"path": '../OpenCvDataSet/mypic/3.jpg', "name": "Mehan"},
                {"path": '../OpenCvDataSet/mypic/4.jpg', "name": "isra"},
                {"path": '../OpenCvDataSet/mypic/5.jpg', "name": "Hanza"},
                {"path": '../OpenCvDataSet/mypic/6.jpg', "name": "Ghufran"}]

img = []
for i in data:
    src1 = cv2.imread(i["path"])
    src1 = np.append(cv2.resize(src1, (600, 600)).flatten(), i["name"])
    img.append(src1)

data = pd.DataFrame(np.array(img))
data.rename(columns={data.iloc[:, -1].name : "Names"}, inplace=True)
data
```

```
Out[6]:
```

	0	1	2	3	4	5	6	7	8	9	...	1079991	1079992	1079993	1079994	1079995	1079996	1079997	1079998
0	149	147	139	149	147	139	149	147	139	146	...	255	255	255	254	254	254	254	254
1	228	160	83	228	160	83	228	162	81	228	...	19	17	17	19	17	17	18	15
2	232	144	80	244	153	86	247	153	87	251	...	54	57	65	50	56	61	51	56
3	210	193	175	100	84	58	228	207	180	215	...	7	7	7	7	7	7	7	7
4	142	200	202	114	197	199	107	198	204	105	...	75	97	125	90	112	140	107	128
5	90	177	187	115	210	219	102	202	209	97	...	87	61	49	128	105	91	118	98

6 rows × 1080001 columns

In []: