

In []:

```
import cv2
```

In []:

```
photo = cv2.imread("shivansh.jpg")
```

In []:

```
cv2.imshow("Shivansh",photo)
cv2.waitKey()
cv2.destroyAllWindows()
```

In []:

```
photo.shape
```

In []:

```
rphoto = cv2.rectangle(photo, (150,50) , (400,370), [0,255,0],5)
```

In []:

```
cv2.imshow("Shivansh",rphoto)
cv2.waitKey()
cv2.destroyAllWindows()
```

Face detection with the help of precreated model ----> Haarcascade Model

In []:

```
# To load the model

model = cv2.CascadeClassifier("haarcascade_frontalface_default.xml")
```

In []:

```
# This model has a capabilities to detect the faces
```

```
model
```

```
In [ ]:
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```
# This function has a capabilities find coordinate of the faces
```

```
faces = model.detectMultiScale(photo)
```

```
In [ ]:
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```
# Means one face is inside this image
```

```
len(faces)
```

```
In [ ]:
```

```
faces
```

```
In [ ]:
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```
# aphoto = cv2.rectangle(photo, (143,108), (143+232,108+232), [0,255,0], 5)
```

```
In [ ]:
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```
x1 = faces[0][0]  
y1 = faces[0][1]  
x2 = x1 + faces[0][2]  
y2 = y1 + faces[0][3]
```

```
In [ ]:
```

```
aphoto = cv2.rectangle(photo, (x1,y1), (x2,y2), [0,255,0], 5)
```

```
In [ ]:
```

```
cv2.imshow("Shivansh", aphoto)  
cv2.waitKey()  
cv2.destroyAllWindows()
```

Real time Faces Detection

In [2]:

```
import cv2
model = cv2.CascadeClassifier("haarcascade_frontalface_default.xml")
```

In [3]:

```
cap = cv2.VideoCapture(0)
```

In [6]:

```
while True:
    status , photo = cap.read()
    faces = model.detectMultiScale(photo)
    if len(faces) == 0:
        pass
    else:
        x1 = faces[0][0]
        y1 = faces[0][1]
        x2 = x1 + faces[0][2]
        y2 = y1 + faces[0][3]

        aphoto = cv2.rectangle(photo, (x1,y1), (x2,y2), [0,255,0], 5)
        cv2.imshow("Shivansh", aphoto)
        if (cv2.waitKey(50)) == 13:
            break
cv2.destroyAllWindows()
```

In [7]:

```
cap.release()
```

Facing problem while ceating this project is , whenever my model doesn't detect any faces it give an error tuple index out of range...

In []:

In []:

```
import numpy as np
```

```
In [ ]:
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```
s = np.array([[1,2,3,4,5]])
```

```
In [ ]:
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```
len(s)
```

```
In [ ]:
```

```
s[0][1]
```

```
In [ ]:
```

```
s[0][9]
```

```
In [ ]:
```

```
if len(s) == 0:  
    pass  
else:  
    print("hello")
```

```
In [ ]:
```