+ Code + Text

[1] import cv2

```
cv2.CascadeClassifier(*args, **kwargs)
View source
<class 'cv2.CascadeClassifier'>
```

```
face_cascade = c                              es + 'haarcascade_frontalface_default.xml')
smile_cascade = cv2.CascadeClassifier(cv2.data.haarcascades + 'haarcascade_smile.xml')
```

```
[3] # Function to detect faces and smiles
    def detect_smile(image):
        gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
        faces = face_cascade.detectMultiScale(gray, scaleFactor=1.3, minNeighbors=5)

        for (x, y, w, h) in faces:
            cv2.rectangle(image, (x, y), (x+w, y+h), (255, 0, 0), 2)
            roi_gray = gray[y:y+h, x:x+w]
            roi_color = image[y:y+h, x:x+w]

            smiles = smile_cascade.detectMultiScale(roi_gray, scaleFactor=1.8, minNeighbors=20)
            for (sx, sy, sw, sh) in smiles:
                cv2.rectangle(roi_color, (sx, sy), (sx+sw, sy+sh), (0, 255, 0), 2)

        return image
```
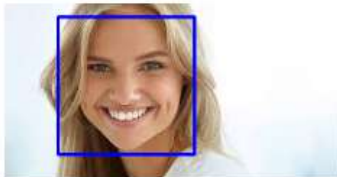
```
[16] image_path = '/content/download (2).jpg'
     image = cv2.imread(image_path)
```

```
[17] # Detect smiles
     result_image = detect_smile(image)
```

```
[18] from google.colab.patches import cv2_imshow
```

```
[19] # Display the result
     cv2_imshow(result_image)
```


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