

# Load and implement the Face Detection method in OpenCV using python

## 1. Import Required Libraries

Load OpenCV and the Colab-specific image display function `cv2.imshow`.

## 2. Load Haar Cascade Face Detector

Use OpenCV's built-in Haar Cascade model (`haarcascade_frontalface_default.xml`) to detect human faces.

## 3. Read the Input Image

Load an image using its file path (`cv2.imread`). Verify if the image was loaded successfully.

## 4. Convert Image to Grayscale

Convert the original color image to grayscale using `cv2.cvtColor` to improve detection accuracy.

## 5. Detect Faces in the Image

Apply `detectMultiScale()` on the grayscale image to find all faces, returning bounding box coordinates.

## 6. Annotate Detected Faces

For each detected face, draw a rectangle around it using `cv2.rectangle`, and label it as "Person 1", "Person 2", etc., using `cv2.putText`.

## 7. Display the Annotated Image in Colab

Show the final image with rectangles and labels using `cv2.imshow()` (specific to Google Colab).