6. FACE DETECTION METHOD IN OPENCY USING PYTHON

EX.N0:6

LOAD AND IMPLEMENT THE FACE DETECTION
METHOD IN OPENCY USING PYTHON

DATE: 04/03/2025

AIM:

To load and implement real-time face detection using OpenCV and Haar Cascade Classifier.

ALGORITHM:

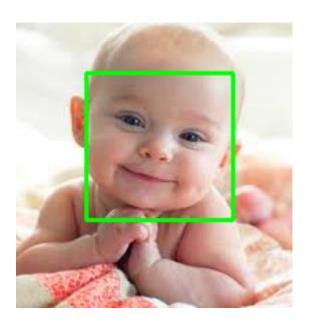
- Step 1: Import OpenCV library.
- Step 2: Load the Haar cascade classifier for face detection.
- Step 3: Access webcam video using cv2.VideoCapture ().
- Step 4: Read frames continuously and convert them to grayscale.
- Step 5: Detect faces using detectMultiScale() method.
- Step 6: Draw rectangles around detected faces and display the video

PROGRAM:

```
import cv2
face_cascade = cv2.CascadeClassifier(cv2.data.haarcascades +
'haarcascade_frontalface_default.xml')
cap = cv2.VideoCapture(0)
while True:
ret, frame = cap.read()
if not ret:
break
gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
faces = face_cascade.detectMultiScale(gray, scaleFactor=1.1, minNeighbors=5)
for (x, y, w, h) in faces:
```

 $cv2.rectangle(frame, (x, y), (x + w, y + h), (0, 255, 0), 2) \\ cv2.imshow("Face Detection", frame) \\ if cv2.waitKey(1) & 0xFF == ord('q'): \\ break \\ cap.release() \\ cv2.destroyAllWindows()$

OUTPUT:



RESULT:

Thus the Program has been executed successfully and verified.