DSA0210 Computer Vision with Open CV LAB Experiments

Experiment-33: Face Detection using Opencv.

PROGRAM:

```python
import cv2

import matplotlib.pyplot as plt


# Load Haar Cascade classifier

face_cascade = cv2.CascadeClassifier(

    cv2.data.haarcascades + "haarcascade_frontalface_default.xml"

)


# Read the input image

img = cv2.imread(r"D:\New Folder\human.jpeg")


# Check if image is loaded

if img is None:

    raise FileNotFoundError("Image not found. Check the file path.")


# Convert image to grayscale

gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)


# Detect faces

faces = face_cascade.detectMultiScale(

    gray,

    scaleFactor=1.1,

    minNeighbors=5,

    minSize=(30, 30)

)
```

```python
# Draw rectangles around faces
for (x, y, w, h) in faces:
    cv2.rectangle(img, (x, y), (x + w, y + h), (0, 255, 0), 2)


# Display result
plt.figure(figsize=(6, 6))
plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
plt.title("Face Detection using OpenCV")
plt.axis("off")
plt.show()
```

OUTPUT: