Human Face Detection Project

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Objective:

This project aims to detect human faces in an image using Python and OpenCV. It applies the Haar Cascade Classifier, which is a machine learning-based approach for object detection.

Tools and Technologies Used:

- Python 3
- OpenCV (cv2)
- NumPy
- Haar Cascade Classifier (pre-trained by OpenCV)
- FPDF (for generating PDFs)

Observations:

- The model successfully detects frontal human faces.
- OpenCV's built-in classifier offers fast and efficient results.
- Detection quality may vary based on lighting and face orientation.

Output:

Sample input image and the processed image with detected faces are stored in the 'output' folder.

Conclusion:

The face detection system is lightweight and efficient for basic applications, and can be further expanded with deep learning for higher accuracy in real-time detection.