Gujarat

Technological

University

Government

Engineering College,

Sector-28,

Gandhinagar

Gandhinagar-382028

A Report on

"FACE RECOGNITION" Subject

PYTHON PROGRAMMING

BY

Name of Student	Enrollment No.
HANI DHOLAKIYA	170130107024
CHARMI KANSARA	180133107039
PARITA LEUVA	180133107044
JAINIL DARJI	180133107005
NIRAV KARATHIYA	180133107012

Under Guidance of **Prof. Pinal Patel**

Head of Department **Dr. D A Parikh**

Department of Computer Engineering
GOVERNMENT ENGINEERING

COLLEGE GANDHINAGAR

CERTIFICATE

This is to certify that the project report entitled "**FACE RECOGNITION**"is submitted by our team under the guidance of **Prof. PINAL PATEL** impartial SSS fulfillment of the Bachelor of Engineering in Computer Engineering from Gujarat Technological University during the academic year 2020-2021.

Prof. Pinal Patel **Dr. D A Parikh**

INTRODUCTION

- Face detection can be thought of as such a problem where we detect human faces in an image.
- Face recognition is a method of identifying or verifying the identity of an individual using their face.
- There are various algorithms that can do face recognition but their accuracy might vary.
- In computer vision, one essential problem we are trying to figure out is to automatically detect objects in an image without human intervention.

OBJECTIVE

- Reducing manual work and save time.
- Reduce complex paper work.
- To observe all human activity.

TOOLS AND TECHNOLOGY

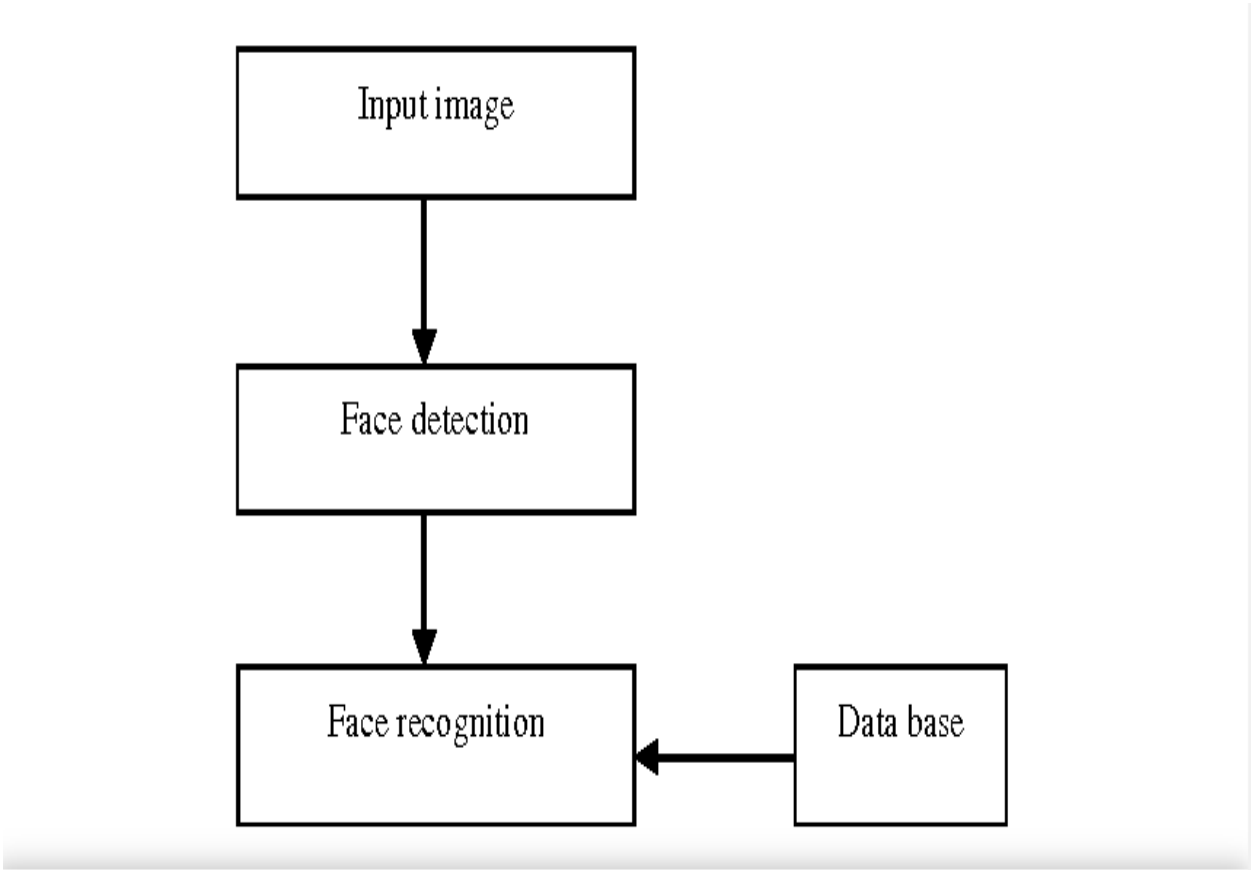
- **Tools**
  - VS Code
  - Desktop

- **Technology**
  - Python with OpenCV

LIBRARIES

- Numpy
    - Provides objects for multi-dimensional arrays
- Cv2
    - For all sorts of image and video analysis, like facial recognition and detection, license plate reading, photo editing, advanced robotic vision, optical character recognition, and a whole lot more
- faceRecognition
    - Recognize and manipulate faces from Python or from the command line

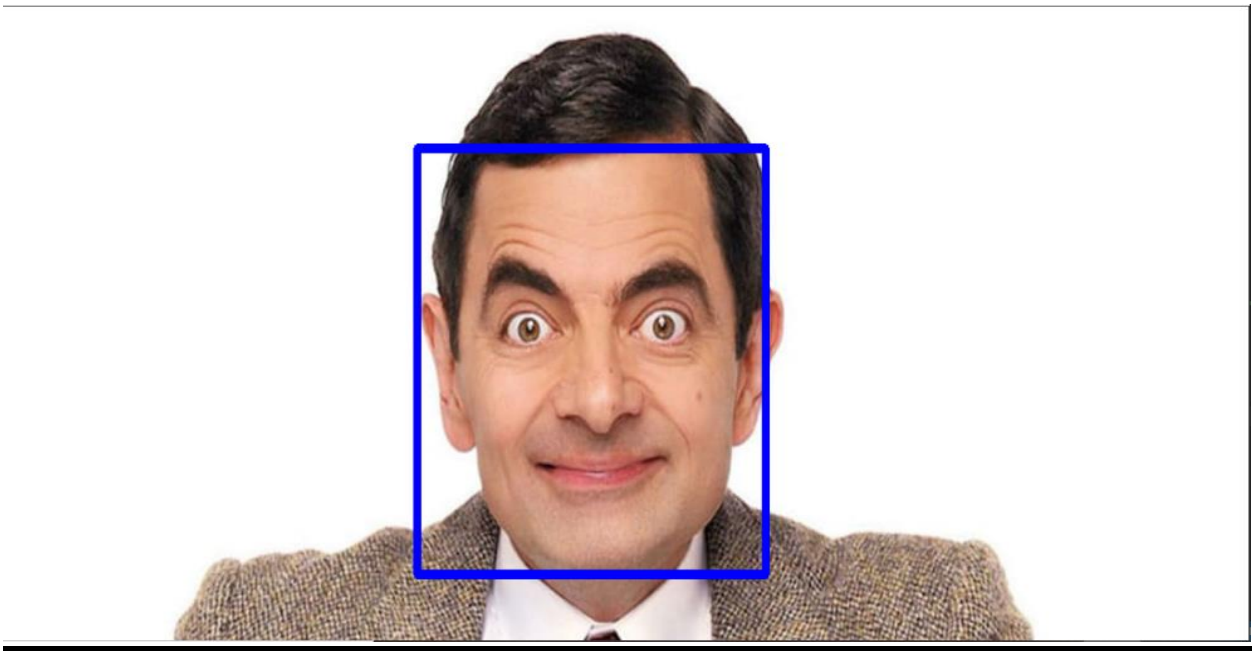
BLOCK DIAGRAM



STEPS FOLLOWED

- Training the dataset
- Labeling for face recognition
- Calculating confidence:
    - Confidence: The confidence interval is a range of values. In the ideal condition, it should contain the best estimate of a statistical parameter. It is expressed as a percentage

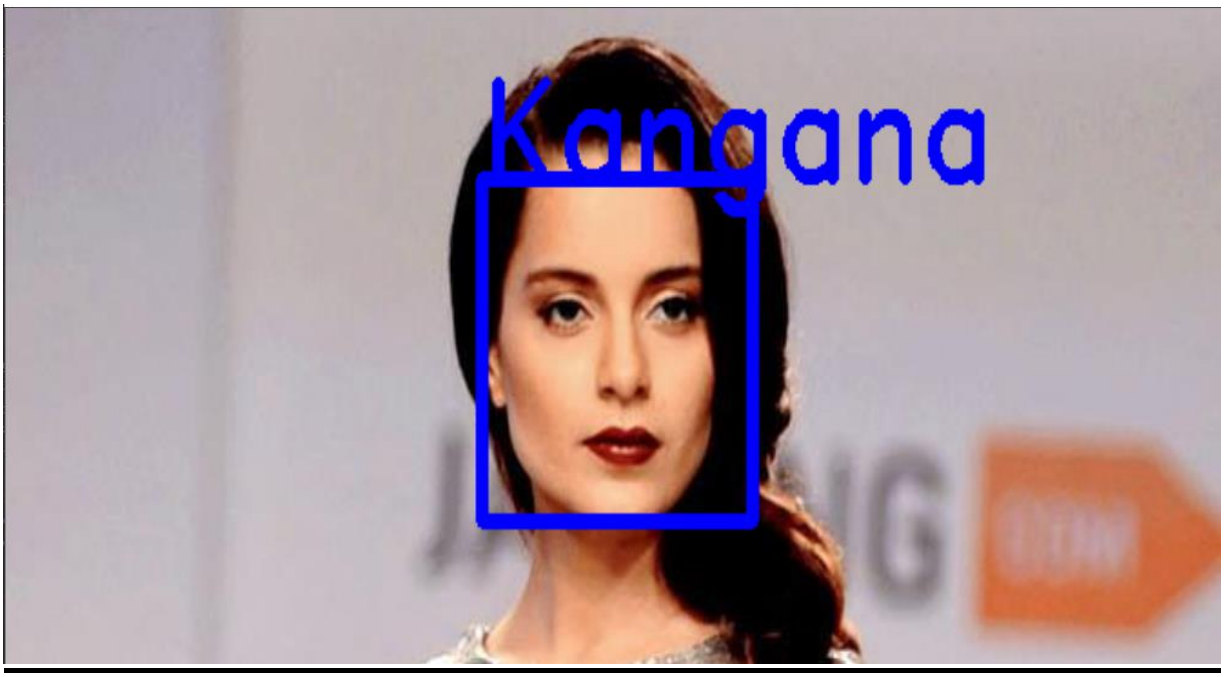
FACE DETECTION



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\baps\Desktop\face-detection\FaceRecognition-master> python tester.py
faces_detected: [[372 101 305 305]]
confidence: 44.18931357191793
label: 0
```

FACE RECOGNITION




```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL                                  1:
PS C:\Users\baps\Desktop\face-detection\FaceRecognition-master> python tester.py
faces_detected: [[262  74 149 149]]
confidence: 0.0
label: 1
PS C:\Users\baps\Desktop\face-detection\FaceRecognition-master>
```

THANK YOU