## Gujarat Technological University Government Engineering College, Sector-28, Gandhinagar Gandhinagar-382028

**A Report on**

**“FACE RECOGNITION” Subject**

**PYTHON PROGRAMMING**

**BY**

|  |  |
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**Under Guidance of Prof. Pinal Patel**

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**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.

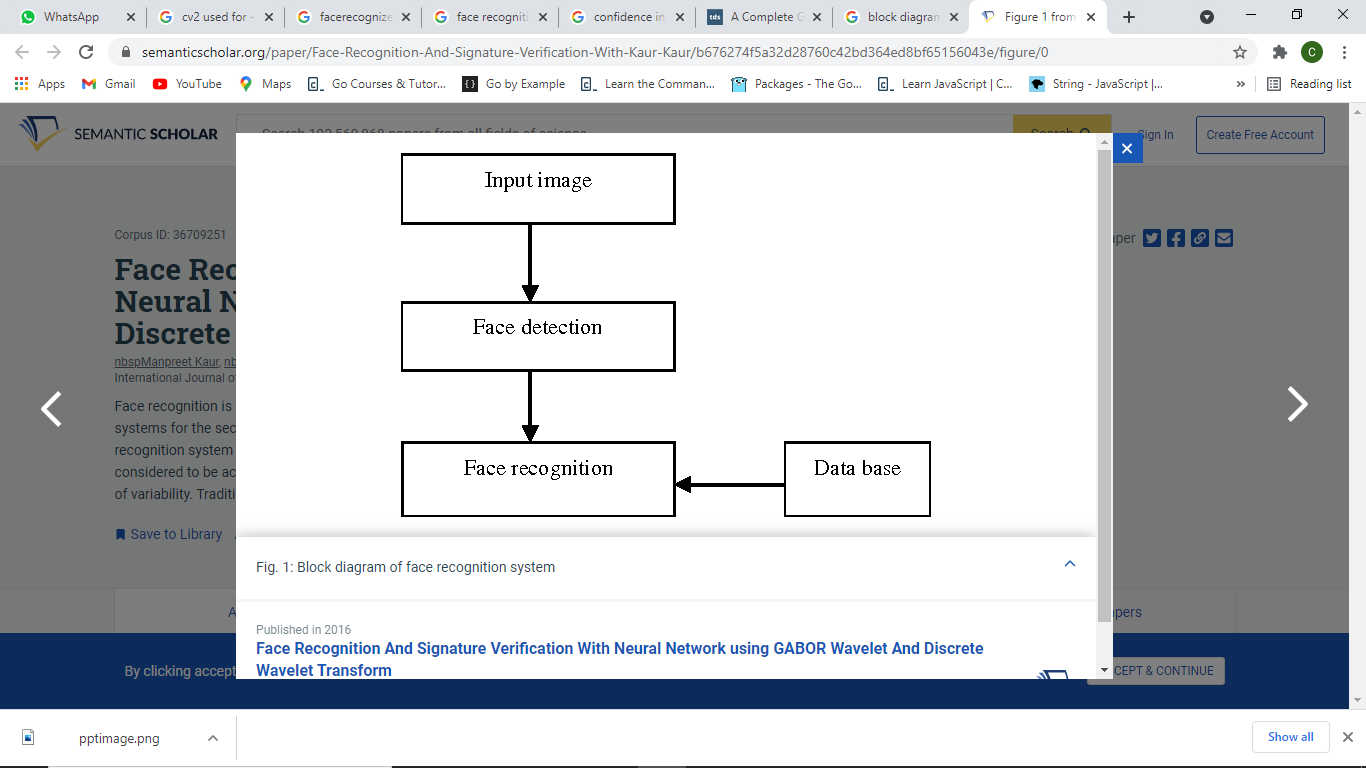
**TOOLS AND TECHNOLOGY**

* **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

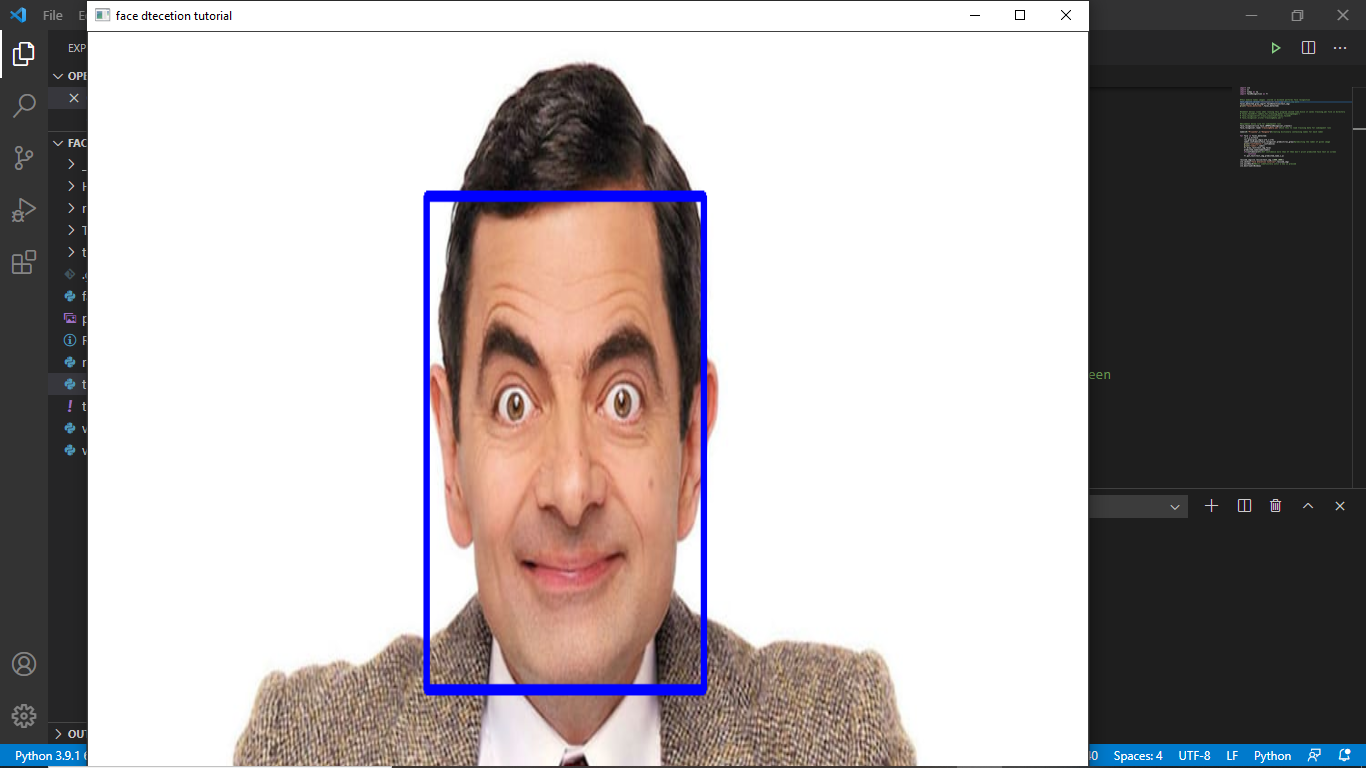
**BLOCK DIAGRAM**

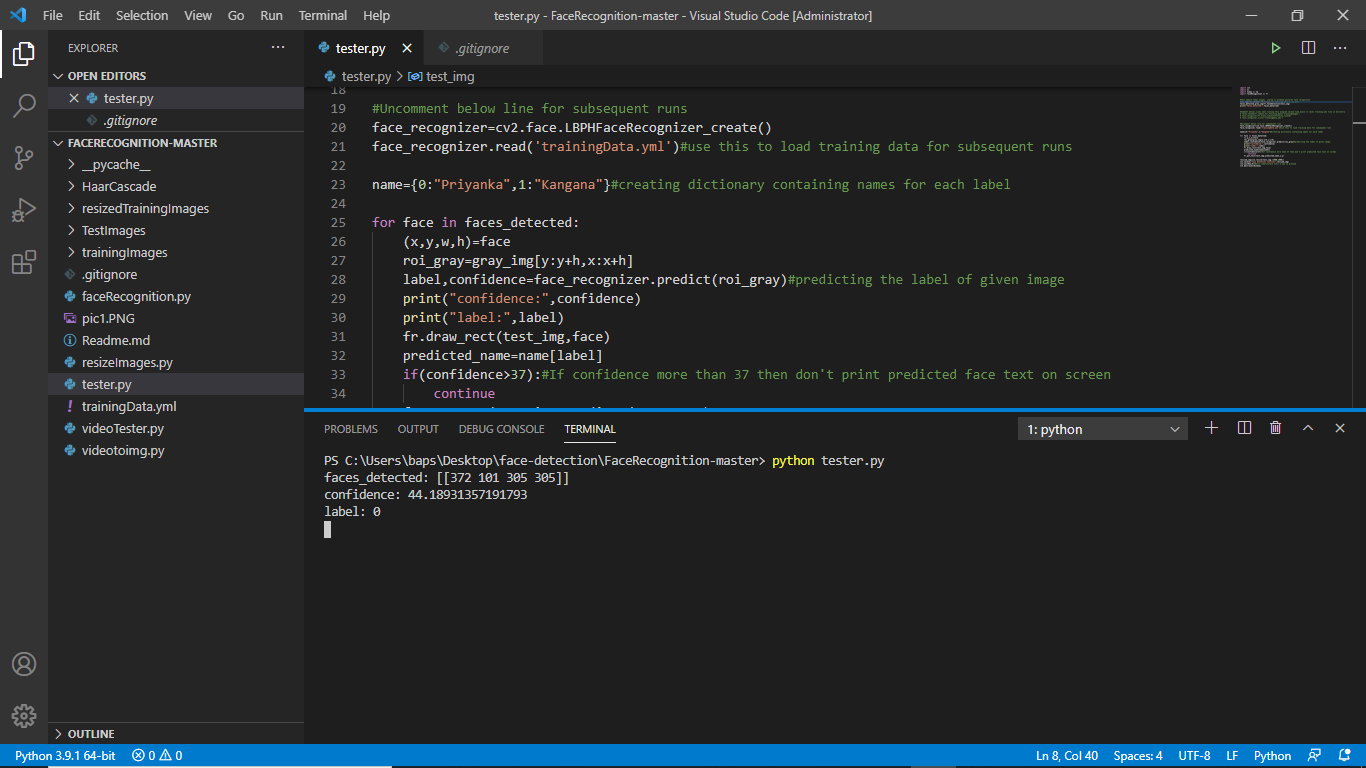
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**STEPS FOLLOWED**

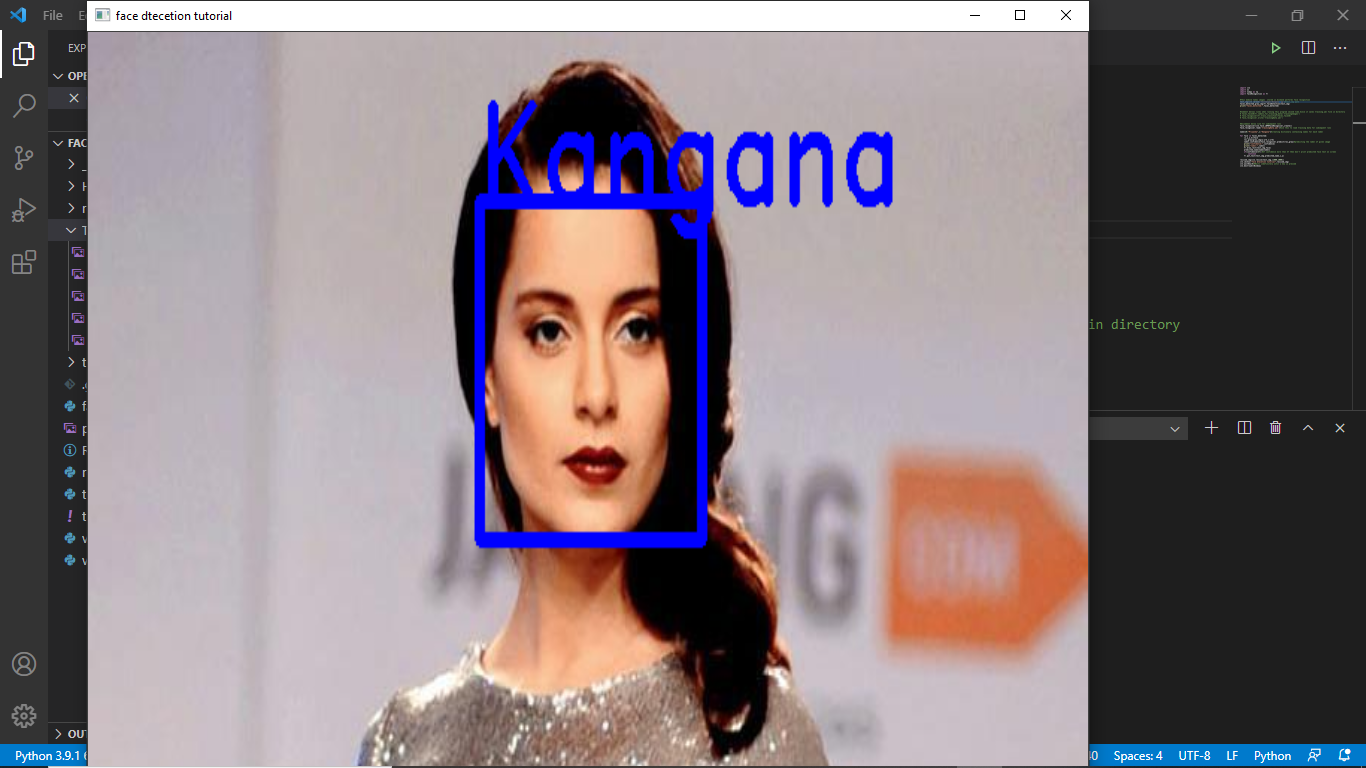
* Training the dataset
* Labeling for face recognition
* Calculating confidence:
  + Confidence: The confidence interval is a range of values. In the ideal condition, it should contain the best estimate of a statistical parameter. It is expressed as a percentage

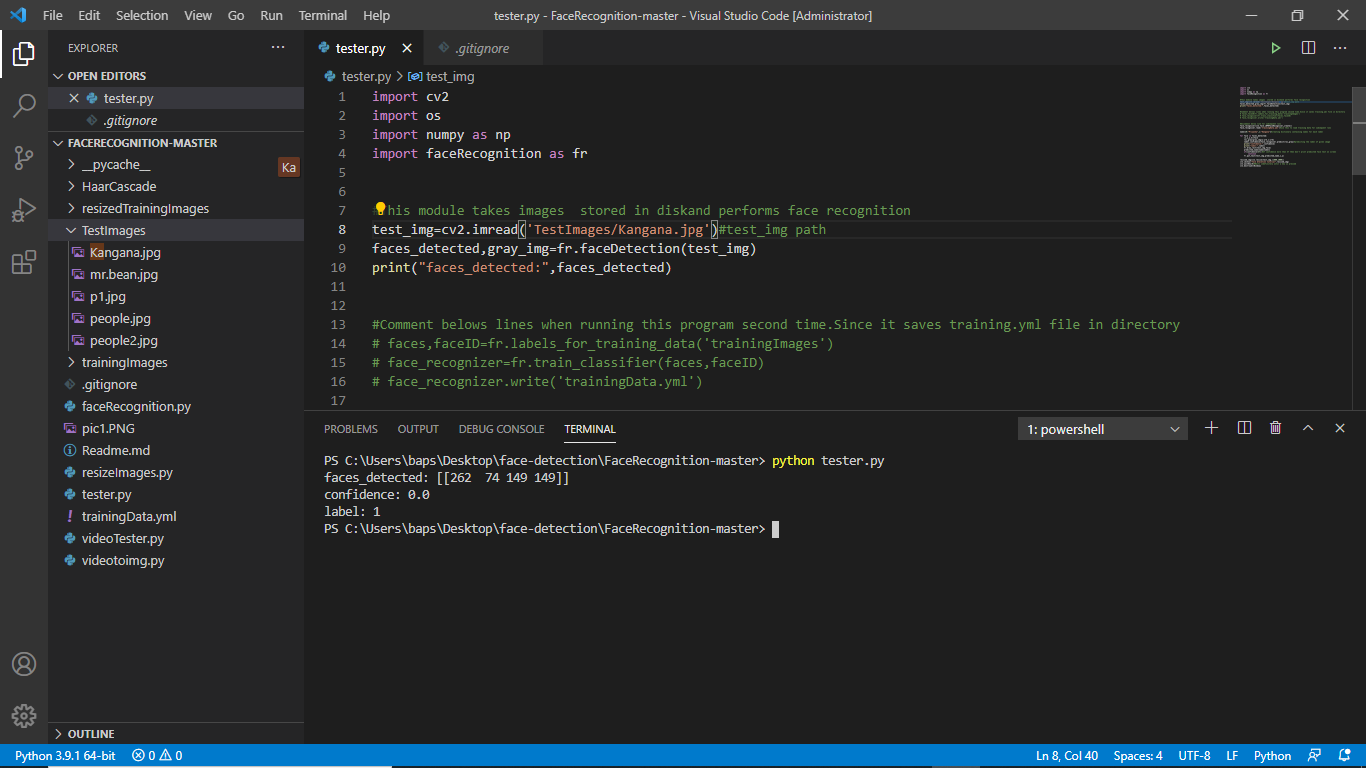
**FACE DETECTION**

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**FACE RECOGNITION**

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**THANK YOU**