University of Juba

School of Computer Science and Information Technology

Course: Artificial Intelligent

Title: Face Recognition for Access Control

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1.0 Introduction

A Face Recognition Access Control System is usually a door lock or turnstile system that allows entrance to an authorized person based on facial recognition algorithms. It is used for keyless and seamless access control and door entry.

With every passing day, we are becoming more and more dependent upon technology to carry out even the most basic of our actions. Facial detection and Facial recognition help us in many ways, be it sorting of photos in our mobile phone gallery by recognizing pictures with their face in them or unlocking a phone by a mere glance to biometric information in the form of face images in the unique ID database as an acceptable biometric input for verification.

This project proposal will lay out the basic terminology required to understand the implementation of Face Detection and Face Recognition using Intel's Computer Vision library called 'OpenCV'. It will also show the practical implementation of the Face Detection and Face Recognition using OpenCV with Python embedding on both Windows as well as macOS platform. The aim of the project is to implement Facial Recognition on faces that the script can be trained for. The input is taken from a webcam and the recognized faces are displayed along with their name in real time.

A face recognition system could also be a technology which is very capable of matching a personality's face from a digital image or a video frame which it has or use it as a reference to map and identify against a database of faces. Researchers' area unit presently developing multiple ways throughout that face recognition systems work. The foremost advanced face recognition methodology, that is to boot used to manifest users through ID verification services, works by pinpointing and mensuration countenance from a given image.

1.1.Problem Statement

Random movement in the building uncontrollably is dangerous to the office and people working
Face detection is able to immensely improve surveillance efforts which can greatly help in tracking down of people who might be threat to the security of the building and the people collectively.

1.2. OBJECTIVES

The objective of this project proposal is to implement a face recognition system that will control access to the offices within the University main administration building to study the various means of recognizing faces with more accuracy and reducing the error rates while recognition.

Facial Recognition system will be "Capable of uniquely identifying or verifying a person by comparing and analysing patterns based on the person's facial contours

The system will be able to identify and grant access to workers within the building

Face Recognition Process Data Flow Diagram

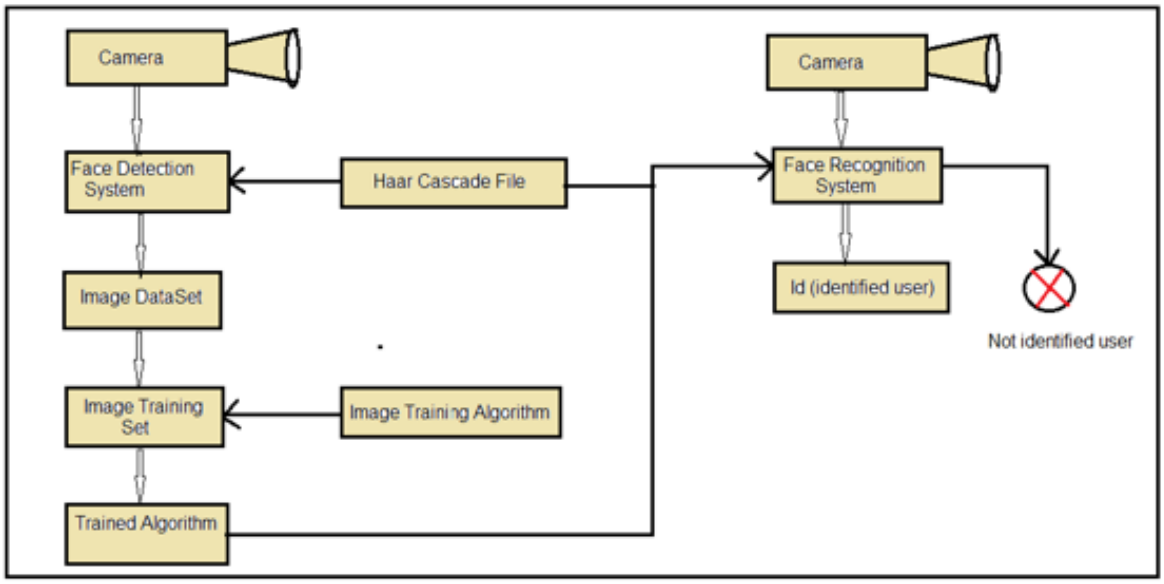

Fig :- Face Recognition Process

The above flow chart explains the process of face recognition that how they work.

References

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