Logo

Description automatically generated with medium confidence

MINI PROJECT REPORT

ON

FACE RECOGNITION

Presented By:

Shashank Kothari

University Roll no.

2017020

**DECLARATION**

## I, **Shashank kothari** student of **B-tech, Semester 4,** Department of Computer Science and Engineering, Graphic Era Deemed University, Dehradun, declare that the technical project work entitled “Payroll System” has been carried out by me and submitted in partial fulfillment of the course requirements for the award of degree in B- tech of **Graphic Era Deemed University** during the academic year **2021-2022**. The matter embodied in this synopsis has not been submitted to any other university or institution for the award of any other degree or diploma.



**CERTIFICATE**

This is to certify that the project report entitled “Face Recognition” is a project work carried out by Shashank Kothari , roll no- 2017020 in partial fulfillment of award of degree of B- tech of Graphic Era Deemed University, Dehradun during the academic year 2021-2022. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated. The project has been approved as it satisfies the academic requirements associated with the degree mentioned.

**Dr. Devesh Pratap Singh**

**HOD (Computer Science)**

**,**

**ACKNOWLEDGEMENT**

Here by I am submitting the project report on **“Face recognition”** as per the scheme of Graphic Era Deemed University, Dehradun.

I would like to express our sincere gratitude to **Dr. Devesh Pratap Singh,** Head of Dept. of Computer Science, for providing a congenial environment to work in and carry out our project.

I consider it mine cardinal duty to express the deepest sense of gratitude to Mr. **Akshay Rajput** Asst. Professor, Department of Computer Science and Application for the invaluable guidance extended at every stage and in every possible way.

Finally, I am very much thankful to all the faculty members of the Department of Computer Science and Technology, friends and our parents for their constant encouragement, support and help throughout the period of project conduction.

**Face Recognition**

Face recognition is a way of identifying or confirming an individual’s identity using their face. Facial recognition systems can be used to identify people in photos, videos, or in real-time.

Facial recognition is a category of biometric security. Other forms of biometric software include voice recognition, fingerprint recognition, and eye retina or iris recognition. The technology is mostly used for security and law enforcement, though there is increasing interest in other areas of use.

**PROBLEM STATEMENT**

A complete face recognition system includes face detection, face preprocessing and face recognition processes. Therefore, it is necessary to extract the face region from the face detection process and separate the face from the background pattern, which provides the basis for the subsequent extraction of the face difference features. The recent rise of the face based on the depth of learning detection methods, compared to the traditional method not only shorten the time, and the accuracy is effectively improved.

**MOTIVATION**

Face recognition has recently received a blooming attention and interest from the scientific community as well as from the general public. The interest from the general public is mostly due to the recent events of terror around the world, which has increased the demand for useful security systems. Also various institutes are using face recognition for attendance system and accessing institutional systems. Also in mobiles, computers, homes and private vaults this technique is used for personal security.

**TOOLS / SOFTWARE**

* Visual code studio
* Open CV
* Python
* Haar cascade classifier

**METHODOLOGY FOLLOWED**

* Data set collection
* Training data set
* Detection or test

Haar cascade: Haar cascade is an algorithm that can detect objects in images, irrespective of their scale in image and location. This algorithm is not so complex and can run in real-time

Haar cascade Features:

Text

Description automatically generated with medium confidence

Diagram

Description automatically generated

Flow chart

Diagram

Description automatically generated

Face detection process

Dataset collection A screenshot of a person's face

Description automatically generated with medium confidence

Graphical user interface, application

Description automatically generated Collected Dataset

Face recognition A screenshot of a person

Description automatically generated with medium confidence

Conclusion

Face recognition is an emerging technology that can provide many benefits. Face recognition can save resources and time, and even generate new income streams, for companies that implement it right.

What lies ahead for this technology, It’s difficult to be certain. Some experts predict that our faces will replace IDs, passports and credit card pin numbers. Given the fact how convenient and cost-effective this technology is, this prediction is not far-fetched.

If this prediction becomes a reality, any company that implemented the technology today might gain a competitive advantage in the future.