

DESIGN AND IMPLEMENTATION OF FACE RECOGNITION USING OPENCV

*This project report is submitted to
Rashtrasant Tukadoji Maharaj Nagpur University
in the partial fulfilment of the requirement for the award of the degree
of*

Bachelor of Engineering in Computer Technology

by

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CERTIFICATE

This is to certify that the project report entitled '**Design and Implementation of Face Recognition using OpenCV**' carried out by Mr. Aneesh Nedunoori (CT19019), Mr. Hardik Durge (CT19021), Mr. Chaitanya Choudhary (CT19025), Mr. Jay Karemore (CT19027), Mr. Tushar Sharma (CT19081) of the B.E. third year of Computer Technology, during the academic year 2021-2022, in the partial fulfilment of the requirement for the award of the degree of **Bachelor of Engineering (Computer Technology)** offered by the **Rashtrasant Tukadoji Maharaj Nagpur University**, Nagpur.

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DECLARATION

We declare that

- a. The work contained in this project has been done by us under the supervision of our guide.
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. We have followed the guidelines provided by the Institute in preparing the report.
- d. We have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- e. Whenever we have used material (data, theoretical analysis, figures, and text) from other sources, we have given due credit to them by citing them in the text of the report and giving their details in the references. Further, we have taken permission from the copyright owners of the sources, whenever necessary.

Project-mates

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Project-mates

ABSTRACT

As one of the most successful applications of image analysis and understanding, face recognition has recently received significant attention, especially during the past few years. Facial recognition technology (FRT) has emerged as an attractive solution to address many contemporary needs for identification and verification of identity claims. It brings together the promise of other biometric systems, which attempt to tie identity to individually distinctive features of the body, and the more familiar functionality of visual surveillance systems. This report develops a socio-political analysis that bridges the technical and social scientific literature on FRT and addresses the unique challenges and concerns that attend its development, evaluation, and specific operational uses, contests, and goals.

It highlights the potential and limitations of the technology, noting those tasks for which it seems ready for deployment, those areas where performance obstacles may be overcome by future technological developments or sound operating procedures, and still other issues that appear intractable. Its concern with efficacy extends to ethical considerations. Face recognition technology may solve this problem since a face is undeniably connected to its owner except in the case of identical twins. It's non-transferable. The system can then compare scans to records stored in a central or local database or even on a smart card.

Keywords: face recognition, python, OpenCV, deep learning, faces.

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ABBREVIATIONS

Abbreviations	Meaning
IDE	Integrated Development Environment
DNN	Deep Neural Network
CNN	Convolutional Neural Network
OS	Operating System
DFD	Data Flow Diagram

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