

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,  
BELAGAVI**



**A MINI PROJECT REPORT ON**

**“REAL-TIME FACE RECOGNITION ATTENDANCE MONITORING  
SYSTEM”**

**IN**

**COMPUTER SCIENCE AND DESIGN**

**By**

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**CERTIFICATE**

This is to certify that the DBMS Mini Project entitled **"REAL-TIME FACE RECOGNITION ATTENDANCE MONITORING SYSTEM"** has been successfully completed by

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The bonafide students of the Department of Computer Science & Design, Alva's Institute of Engineering and Technology in the DEPARTMENT OF COMPUTER SCIENCE & DESIGN of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini Project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

**Dr. Pushparani M K**

**Mini Project Guide**

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*8/8/24*



## ABSTRACT

This project presents a real-time face Recognition Attendance Monitoring System, leveraging Python and Machine Learning techniques to enhance efficiency and accuracy in attendance management. The core of the system employs the K-Nearest Neighbors (KNN) algorithm for face recognition due to its simplicity and effectiveness in classification tasks. The system functions by capturing live video feeds or accessing pre-recorded footage to detect and recognize faces in real time. Each identified face is cross-referenced with a pre-existing database to automatically mark attendance, eliminating the need for traditional roll calls or manual data entry. This automated process not only saves time but also reduces the likelihood of errors, ensuring a more reliable attendance tracking mechanism. In addition to recording attendance, the system stores the data in a CSV file, providing a **permanent** and easily accessible record for future reference. The integration with Streamlit allows for the dynamic display of attendance records, offering a user-friendly and interactive interface for users to monitor and manage attendance data. Furthermore, the system is designed to be scalable, capable of handling a large number of users, and includes security measures to protect sensitive information. This ensures that the attendance records are accessible only to authorized personnel, maintaining the privacy and integrity of the data. Overall, this smart attendance system aims to revolutionize attendance management in educational institutions and workplaces, promoting a seamless, efficient, and accurate process through the innovative use of technology.

Overall, this smart attendance system aims to streamline the attendance process in educational institutions and workplaces, promoting efficiency, accuracy, and ease of use. The combination of Python, KNN, and Streamlit not only ensures robust face recognition capabilities but also offers an interactive platform for real-time attendance tracking and management.