ABSTRACT

This project explores the integration of OpenCV and LBPH for real-time attendance monitoring, utilizing face recognition technology to ensure efficient and accurate student identification. By leveraging OpenCV's Haar Cascade Classifier for face detection, we capture and process facial data in real-time, achieving high accuracy in recognition. The system implements the LBPH (Local Binary Patterns Histogram) algorithm for robust face recognition and data management. Using a CSV database and Pandas for data handling, the project offers a streamlined method for tracking attendance across multiple sessions. Additionally, a user-friendly GUI built with Tkinter allows for easy subject selection and attendance monitoring. This approach ensures precise recognition, real-time data logging, and operational efficiency in a scalable classroom environment. The project outlines a step-by-step process for setting up face detection and recognition, configuring the attendance database, and integrating the GUI for seamless user interaction. By following these best practices, the solution aims to enhance the accuracy, security, and automation of attendance management in educational institutions.

Keywords: OpenCV, LBPH, Face Recognition, Attendance System, Haar Cascade, Real-Time Monitoring, Python, Tkinter

ACKNOWLEDGEMENT

LIST OF FIGURES

LIST OF TABLES