Face Recognition-Based Attendance System for Education Institute

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Abstract: *Facial recognition technology is a crucial aspect of human identification, making it an ideal solution for attendance monitoring in educational institutions.[2] Traditional methods of attendance taking, such as roll calls and sign-in sheets, have proven to be time-consuming and inefficient. Consequently, there is a pressing need to enhance and upgrade the current attendance system to be more user-friendly and effective. This project aims to develop a face recognition-based attendance monitoring system that overcomes the limitations of the existing system. The current system suffers from ambiguity, leading to inaccuracies and inefficiencies in attendance tracking. Furthermore, it faces challenges in enforcing attendance regulations. By utilizing face recognition technology, which leverages the unique and difficult-to-duplicate characteristics of the human face, this project aims to address these issues. The system scans the faces of newly admitted students, capturing sample images (up to 100 samples per student), which are stored for training the model to ensure accurate predictions. During attendance sessions, the student's face is compared against the stored images to verify their identity. Once identified, the system automatically records the attendance by saving the necessary information, including the attendance status, in an Excel sheet. At the end of each day, the attendance information for all individuals is compiled into an Excel sheet and emailed to the respective faculty. This paper provides insights into the functionality and implementation of this project in educational institutes, showcasing its potential to revolutionize the attendance management system*

Keywords: Face recognition, Attendance, Python open Cv, Numpy, Pythontkinter, Images, Training

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