Face Recognition Based Student Attendance System

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Abstract: *The term 'biometrics' refers to a measurable characteristic that is unique to an individual such as fingerprints, facial structure, the iris or a person's voice. This project presents a face image based biometric system that records the attendance of a person by using a hand held face image biometrics. Attendance is a concept that exists in different places like institutions, organization's, hospitals, etc. during the start and end of the day to mark a person's presence. In early days and even now in many places attendance is recorded manually in attendance registers by calling out the names. This results in waste of time and human effort. Also there are many fraudulent issues that happen when we use a register. A student attendance system using face recognition and Grassmann classification is a biometric system that can automate the attendance taking process in a classroom setting. This system involves collecting a dataset of images of each student in the classroom and using face detection and alignment algorithms to detect and align the faces in each image. The Grassmann classification algorithm is then used to extract features from the images and classify them as belonging to a particular student. When a student enters the classroom, their face is captured by a camera and compared to the images in the dataset. If a match is found, the student is marked as present. This system has the potential to save time and increase accuracy in the attendance taking process. However, it also raises concerns about privacy and the security of the collected data. Proper safeguards must be put in place to ensure that the system is used ethically and responsibly.*

Keywords: Face Registration, Student Details Maintenance, Real Time Face Capture, Feature Extraction, Grassmann Learning, Feature Classification, Mark Attendance, Alert System

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