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Batch-20

**Paper name**

Student Attendance System in Crowded Classrooms Using a Smartphone Camera

**Source link**

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**Introduction**

It can be quite difficult to keep track of student attendance, particularly in large classroom. Conventional manual techniques are laborious and prone to mistake. To effectively record student presence, we suggest an automated attendance system that make use of facial recognition.

**Proposed System**

There are five essential steps in the system:-

1. **Enrolment:** Students provide their ID card and picture of themselves (kept in database).
2. **Image Capture:** The teacher uses smartphone to click photo.
3. **Face Detection and Recognition:** Students faces are identified and detected by system.
4. **Database Querying:** Uploaded photos of students are compared to photo clicked by teacher of whole class.
5. **Attendance Marking in excel file:** Students are marked present if their faces are detected which will go directly to excel file in which students are present along with timestamp.

**Tech to be used**

Local Binary Patterns (LBP), Histogram of Oriented Gradients (HOG), and Gabor filters) and deep learning-based models such as FaceNet, VGG-Face. The implementation will be done in **Python and MATLAB**, integrating deep learning frameworks to process images, extract features, and automate attendance recording.

**Conclusion**

Fake attendance may be minimized and the amount of time spent on manual attendance can be greatly reduced with this automatic attendance system.

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