

Attendance System Using Face Recognition

Team 19

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1. Introduction and Motivation :

- a. The current attendance system in IIIT, is very inefficient. A person has to come up to every class and has to manually mark attendances, disrupting and taking up valuable teaching time. :P
- b. Via this project we are proposing a new system that reduces manual intervention and makes the entire process efficient and unnoticeable. This can be done using some camera hardware installments combined with novel face recognition architectures, in a distributed fashion
- c. Attendance system is one use-case, this system is highly scalable and can be used in multiple public places for security surveillance etc.

2. Problem Statement : Using face recognition to mark attendance and monitor students in a class.

3. Challenges :

- a. Face recognition using a single image is difficult if there are many students in class, so the camera needs to be set up on the entrance.
- b. Multiple entrances can be there so we need to work in a distributed fashion, with multiple systems and a centralised server for maintenance.
- c. We need robust recognition systems with extremely low error rates.

4. Solution Overview :

- a. Install face detection systems on each entrance of a classroom/auditorium, each system detects the faces from the feed and sends the features of the recognised faces over to the centralised server.
- b. If the centralised server matches these received features to those features already in the database, it marks them present based on some threshold for similarity. Those who couldn't be found are marked absent.
- c. The in-time and out-time can also be marked to know who attended the class and for how long.