

Security-and-Monitoring-System

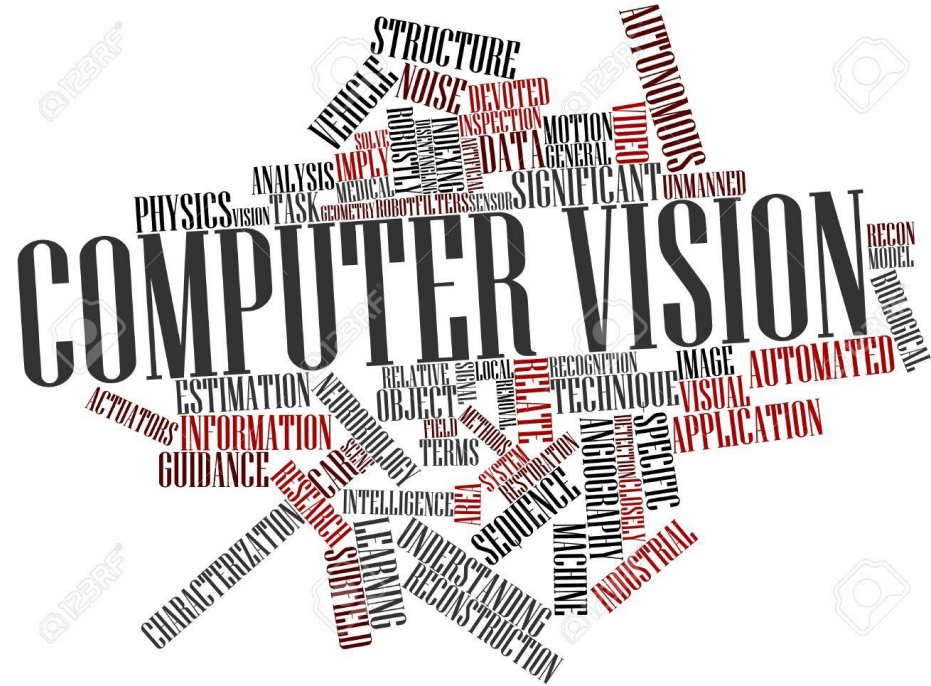


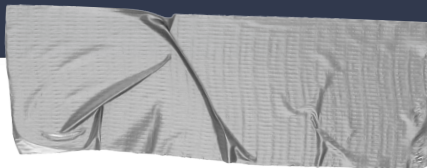
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1. Abstract

It's NOT a simple Attendance Automation System but actually a Complete Security System which can be used as an Attendance Automation System.

- We won't just be telling whether the student is present but also whether he or she attend the whole class or not and where they went after or before every class and for how long.
- A complete security system that can be used to find the movement and whereabouts of people in real time without having to look through the whole security feed.



2. Introduction

We will use cameras to get the feed of the class and the collage which we will use to extract faces at regular interval and perform recognition and hence taking the attendance of the class .

- By getting continuous feed and checking it at regular intervals we will get accurate attendance of the class for the whole period.
- If a student leaves a class in the middle without telling the teacher we will be able to detect it and report it to the teacher immediately and automatically .
- We can use the collected data to find out the behaviour of students and their activities in the class and perform analysis on the data achieved automatically.
- No human needed for the whole process.



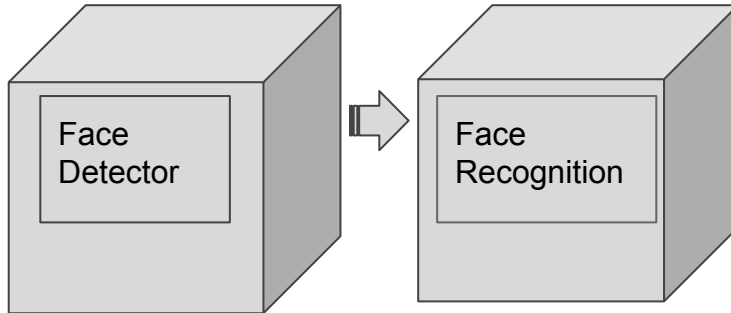
3. Feasibility Study

- Face detection and recognition is easy and various methods are present.
- Tracking and keeping a log and using it to trace the person's movement can easily be done using the log.



4. Objectives

- To detect multiple faces we will divide the image in grids and implement face detection separately on each grid once each face is detected we will transfer those faces to the recognition system which will associate a name to each face



Once the faces have been found we will match it to the database and get the attendance of the class



Note

Assuming we have already created a database to match our data to.



5. Technology

- Python
- OpenCV
- Pandas
- Tkinter





7. References

- http://docs.opencv.org/2.4/modules/contrib/doc/facerec/facerec_tutorial.html
- <http://docs.opencv.org/3.3.0/>
- <https://pandas.pydata.org/pandas-docs/stable/>
- <https://docs.python.org/2/library/tkinter.html>