



Face Recognition Attendance System

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Objectives

Our primary goal is to help the lecturers, improve and organize the process of track and manage student and absenteeism. Additionally we seek to:

- Provides a manual process attendance service to both professors and students.
- Automated update in the database without human intervention
- Flexibility, Lecturers capability of editing attendance records.
- Increase privacy and security which student cannot presenting himself or his friend while they are not.

Introduction

Face Recognition is an important application of Image processing owing to its use in many fields. Identification of individual is an organization for the purpose of attendance in one such application of face recognition. Maintenance and monitoring of attendance record plays an vital role in analysis of performance of any organization.

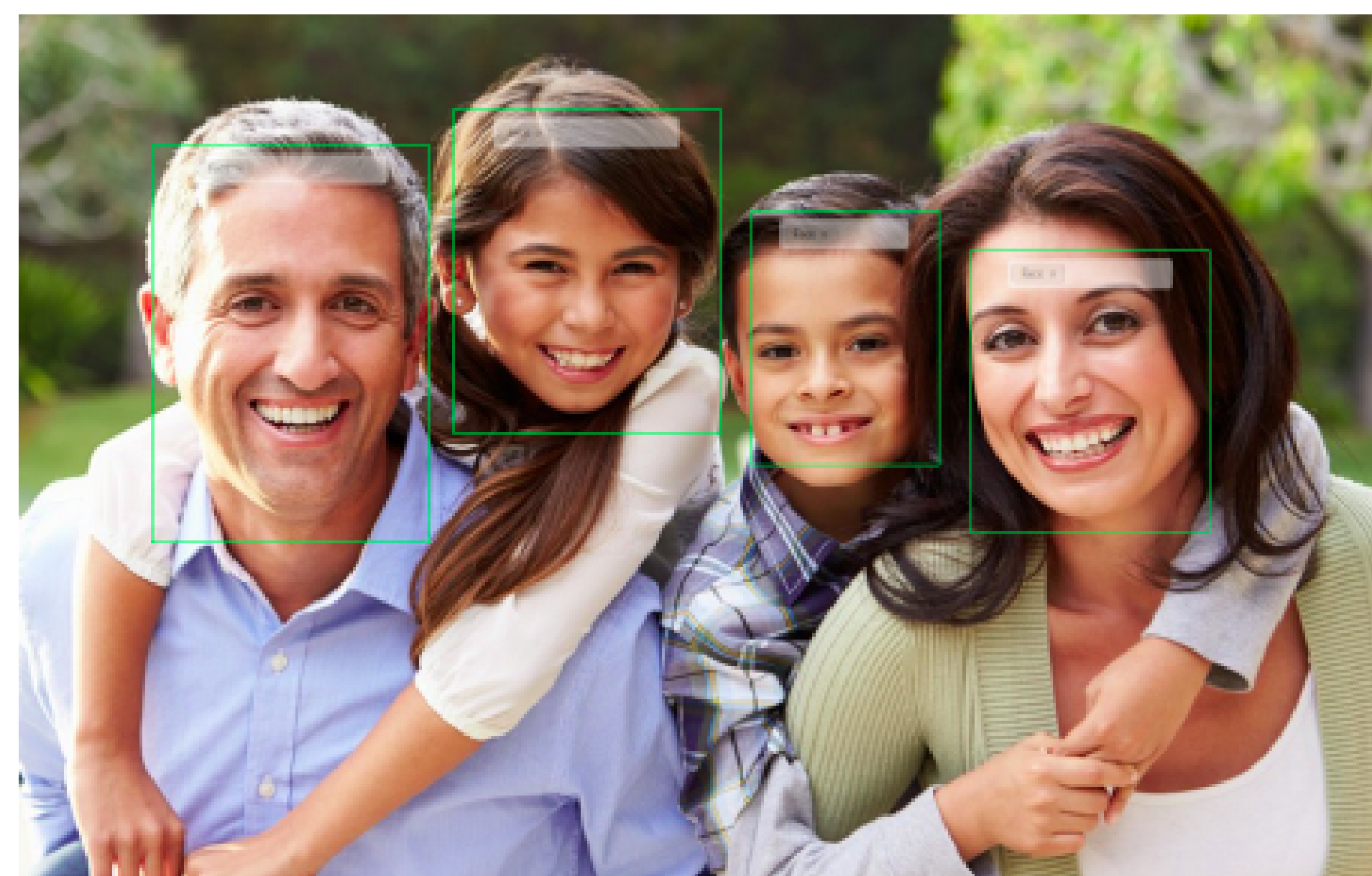


Figure 1: An example for the Face Detection model (Blei 2012)

- Purpose is to computerize the traditional way of taking attendance.
- Perform attendance marking with Reduced Human Intervention.
- System provides features such as detection of faces and analysis of students' attendance.
- System integrate techniques such as color features and cascading classifier for feature detection.

The approach

Capturing images of people present in class using the open CV-library and haar cascade classifier. Then training our algorithm over the prepared databases by converting images to numpy arrays. Then recognising the image based on ID.

- Capturing frames from the video capture object.
- Convert the image to grayscale.
- Detect the face in the object, by creating the rectangle over the face and print the ID of person detected over the rectangle.
- Recognise the ID from the available data in the trainer file.

Inference

Students might portraying various facial expressions, various hair styles, beard, spectacles etc. All of these cases are considered and tested to obtain a high level of accuracy. Thus, it can be concluded, a reliable and efficient tool has been developed. The system will save time. Hence a system with expected results has been developed but there is still some room for improvement.

Contributions

- Provide a tool that can mark the attendance of the student just by recognising face.
- We searched for a system that can take, monitor and manage students attendance, send reminder mail, calculate absenteeism percentage and produce weekly, monthly and annual report.
- In this project, we are trying to develop such a system that can do all above listed tasks. Our project will serve students, lecturers, and the university as whole.

Graphical work flow

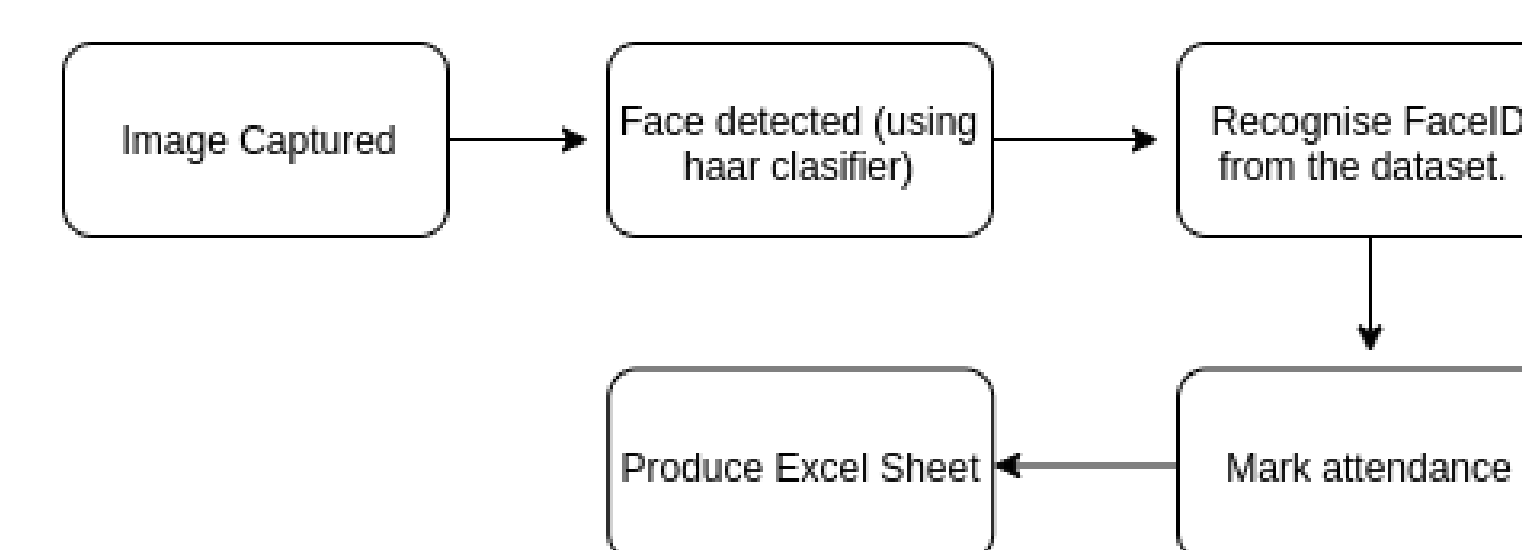


Figure 2:G

raphical Flow of steps of project.

Experiments and analysis



Figure 3: Detecting face

Name	Attendance Count
Sharukh	5
Kartik	4
Salman	2
Rajat Dalai	1

Output Excel File

References

- 1 <https://github.com/neha01/FaceRecognition>
- 2 <https://www.youtube.com/watch?v=h21wMKGs0qs&feature=youtu>
- 3 https://en.wikipedia.org/wiki/Facial_recognition_system

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