

SMART ATTENDANCE SYSTEM USING FACE RECOGNITION

INTRODUCTION

- Attendance is important in educational institutions
- Manual attendance is time-consuming and inaccurate
- Proxy attendance is a major problem
- This project provides an automated smart solution

OBJECTIVES

- Automate attendance using face recognition
- Prevent fake and proxy attendance
- Provide real-time attendance monitoring
- Improve accuracy and efficiency

EXISTING SYSTEM

- ▶ Manual attendance using registers
- ▶ Fingerprint and ID card systems
- ▶ QR code-based attendance

Limitations:

- ▶ Time consuming
- ▶ Proxy attendance possible
- ▶ No real-time alerts

PROPOSED SYSTEM

- ▶ Web-based smart attendance system
- ▶ Face recognition using Data Science
- ▶ Anti-spoofing for security
- ▶ Chatbot for attendance queries
- ▶ Attendance lag alert messages
- ▶ Emotion data analysis

SYSTEM ARCHITECTURE

- Frontend: Web Application
- Backend: Server & APIs
- AI Models: Face Recognition & Emotion Detection
- Database: Attendance Storage

WORKING FLOW

- ▶ Open web application
- ▶ Capture face using web camera
- ▶ Face detection
- ▶ Anti-spoofing check
- ▶ Face recognition
- ▶ Attendance marked automatically
- ▶ Data stored in database

ANTI-SPOOFING MODULE

- Detects live human face
- Prevents photo and video attacks
- Improves system security
- Ensures genuine attendance

CHATBOT MODULE

- Helps students and teachers
- Answers attendance-related queries

Example questions:

Attendance Monitoring

- ▶ How many students are present today?
- ▶ Show today's attendance report
- ▶ Which students are absent today?

Low Attendance & Alerts

- ▶ List students with attendance below 75%
- ▶ Who needs attendance warning?
- ▶ Send alert to low attendance students

CHATBOT MODULE

Class & Date Based

- ▶ Show attendance for this class
- ▶ Attendance report for this week
- ▶ Attendance on selected date

Emotion & Engagement

- ▶ Show class emotion summary
- ▶ How many students look stressed ,happy, neutral today?

ATTENDANCE LAG ALERT SYSTEM

- ▶ Monitors attendance percentage
- ▶ Detects low attendance
- ▶ Sends alert messages
- ▶ Alerts via dashboard / email

Example:

“Warning: Attendance below 75%”(One month ones)

EMOTION DATA ANALYSIS

- Detects student emotions during attendance
- Emotions: Happy, Neutral, Stressed
- Helps understand classroom engagement
- Useful for academic support

DASHBOARD

- View daily attendance
- Student-wise attendance reports
- Emotion and alert status
- Admin and faculty access

SOFTWARE REQUIREMENTS

- Frontend: HTML, CSS, Angular
- Backend: Django / Python
- Database: MySQL
- AI Tools: OpenCV, FaceNet

CONCLUSION

- Smart and secure attendance system
- Uses AI and web technologies
- Improves accuracy and efficiency
- Suitable for modern education systems



THANK YOU