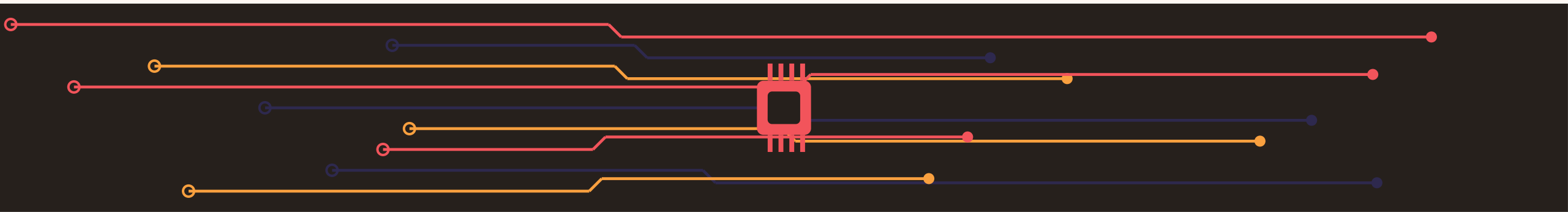


FINAL YEAR PROJECT • B.TECH COMPUTER SCIENCE

Face Recognition Attendance System

Contactless classroom attendance with deep learning

Aarav Sharma • Diya Patel • Prof. R. K. Mehta • Computer Science, 2025–26



02 | Agenda

01

Introduction

02

Literature & Gap

03

Proposed System

04

Implementation

05

Results

06

Conclusion

KEY IDEA

A 60-student roll call can take 8–10 minutes of every lecture.

Why this project matters

04 | Introduction

- Attendance is recorded manually in most classrooms
- Roll calls waste teaching time and allow proxies
- Face recognition can mark attendance in seconds
- We built a camera-based system with a teacher dashboard

CONTEXT

Manual registers are easy to proxy and hard to analyse.

05

Problem statement



Lost time

Roll calls take minutes of every lecture.



Proxy attendance

Signatures and verbal responses are easy to fake.



No analytics

Paper registers make trends hard to see.

06 | Objectives

- Detect and recognise faces from a classroom camera
- Mark attendance automatically with a timestamp
- Generate subject-wise reports for teachers
- Respect privacy: store embeddings, not raw photos

07 Literature survey

Study	Approach	Limitation
Viola-Jones	Haar cascade detection	Weak in poor lighting
FaceNet	Deep embeddings	Needs GPU for training
RFID systems	Card tapping	Cards can be shared

Representative summaries — replace with your own citations.

08 | Existing vs proposed system

Existing system

- ✓ Manual roll call or registers
- ✓ Proxy attendance possible
- ✓ Reports compiled by hand

Proposed system

- Automatic camera-based marking
- Proxy-resistant face matching
- Instant reports and exports

09

System architecture

01

Capture

Classroom camera sends
frames

02

Detect

MTCNN finds faces in each
frame

03

Recognise

Embeddings matched
against enrolled students

04

Record

Attendance saved with
time and subject

10 | Technology stack



Python

Core processing
pipeline



OpenCV + MTCNN

Face detection



FaceNet

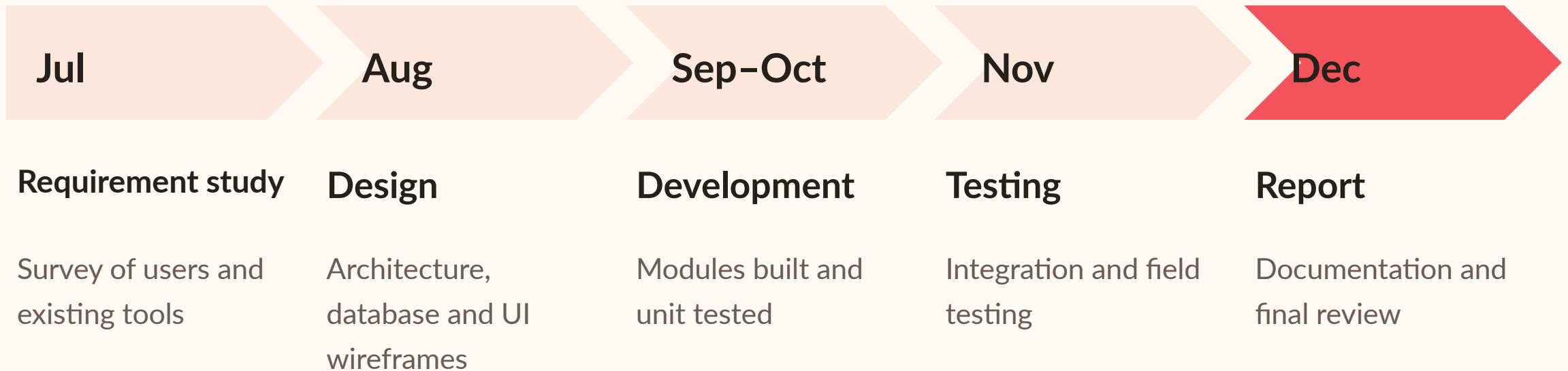
Face embeddings and
matching



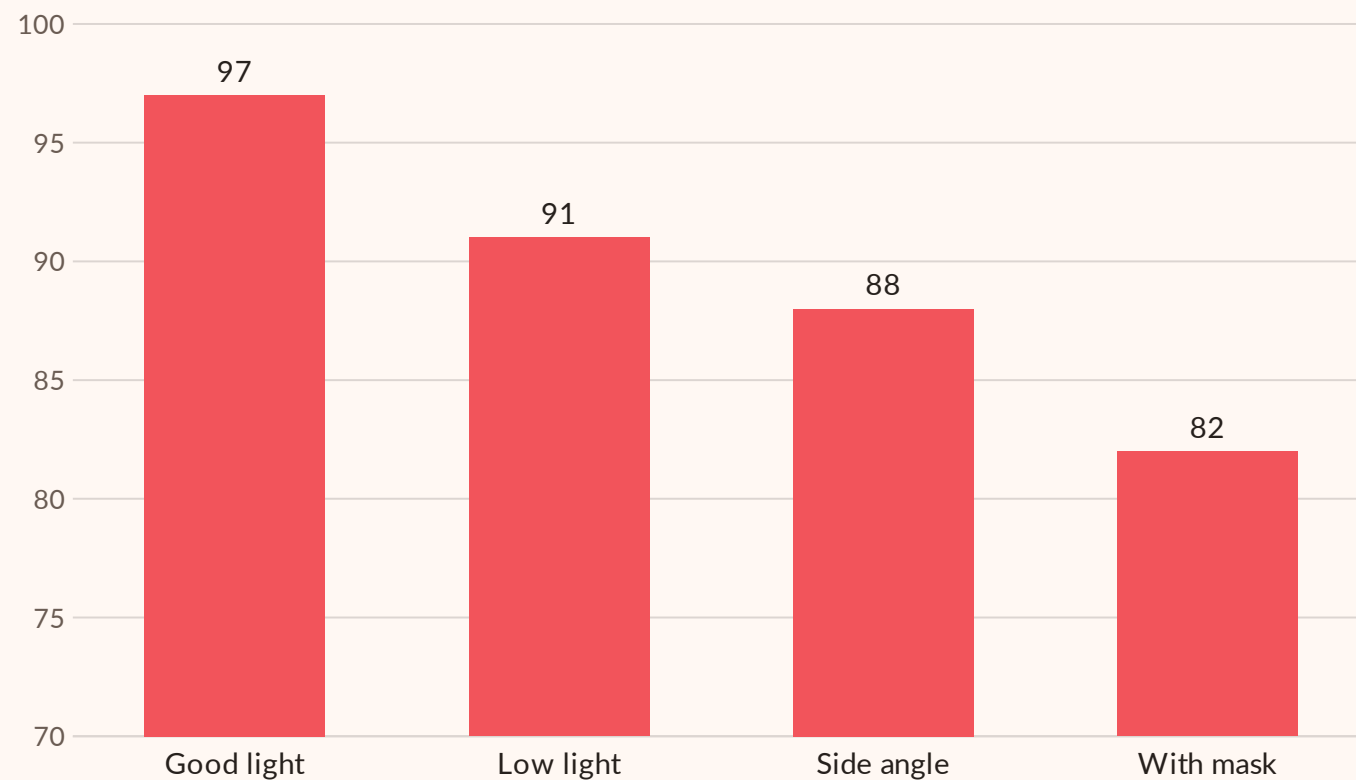
Django

Teacher dashboard
and reports

11 | Project timeline



12 | Results



Sample data for illustration — replace with your own figures.

97%

accuracy in normal lighting

Accuracy stays high in normal classrooms and drops gracefully in harder conditions.

13 | Conclusion

- Face recognition makes attendance fast and proxy-resistant
- Embeddings keep the system privacy-friendly
- Teachers get reports without manual work



Thank you

Questions and suggestions are welcome.

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