

# GRADMATE

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## ABSTRACT

*GradMate is a one-stop web platform designed to streamline and personalize the placement preparation journey for college students. Unlike fragmented systems that require switching between multiple tools, GradMate unifies career road map generation, resume optimization, skill-building resources, and communication skill modules into a single interface. Leveraging ReactJS, Node.js, Express, and MongoDB, the platform supports real-time feedback and tracking of DSA, aptitude, and communication progress. Advanced AI features such as ATS scoring and mock interview feedback using Gemini AI further enhance user readiness. GradMate ensures that students receive a structured, smart, and efficient path to career success.*

*Keywords: Placement Preparation, Resume Builder, Roadmap Generator, ATS Score, Communication Skills, ReactJS, NodeJS, MongoDB, GeminiAI, Full-Stack Development*

## I. INTRODUCTION

Placement preparation is a crucial yet complex stage for engineering students, often involving numerous disconnected platforms for resume building, coding practice, communication skill improvement, and career guidance. GradMate addresses this inefficiency by integrating all essential tools and resources into one cohesive web-based platform. It empowers students through customized career road

maps, ATS-friendly resume generation, and AI-driven communication feedback.

This system fosters confidence and clarity among students by allowing them to track their preparation journey in real time while receiving meaningful guidance tailored to their aspirations—be it SDE, Data Analyst, UI/UX Designer, or other paths.

## II. LITERATURE SURVEY

Many existing platforms like Coursera, Udemy, LeetCode, and Grammarly serve individual needs such as learning, coding, or writing. However, none integrate personalized road maps, resume scoring, and interview preparation into a single workflow. Moreover, these platforms do not communicate with each other, resulting in a disconnected experience. Research highlights the growing importance of ATS compliance, real-time feedback, and holistic readiness. GradMate builds upon these ideas by offering AI-backed evaluations, centralized tracking, and goal-specific guidance, bridging the gap between academic preparation and corporate expectations.

## III. PROPOSED METHODOLOGY

The proposed system, GradMate, is an all-in-one web platform designed to streamline placement preparation for students. It offers personalized career roadmaps, an ATS-friendly resume builder, curated learning resources, and a dedicated

communication skills module. By integrating coding practice and mock HR interview feedback into a single platform, GradMate eliminates the need for juggling multiple tools. It provides a structured, efficient, and guided approach to help students become placement-ready with confidence.

GradMate operates as a full-stack web application consisting of the following modules:

#### 1. User Authentication

- \* Student registration and login using secure credentials
- \* Admin login for management of users, roadmaps, and courses

#### 2. Roadmap Generator

- \* Generates skill-based learning paths for chosen roles

- \* Personalized suggestions based on student goals

#### 3. Resume Builder and ATS Evaluator

- \* Input-based resume generator using GeminiAI
- \* ATS scoring module with job-role-specific feedback

#### 4. Skill Development Resources

- \* Aggregated platform-wise course recommendations
- \* Curated quizzes for aptitude and DSA

#### 5. Communication Skill Enhancer

- \* AI-based analysis of recorded audio
- \* Feedback on fluency, grammar, and confidence

#### 6. Mock HR Interview Review

- \* Upload video of interview session
- \* Speech transcript and structured feedback using Whisper & GeminiAI

Database: MongoDB (MongoDB Compass for GUI)

APIs & Tools: GeminiAI, LeetCode, Coursera, GitHub, Postman, GitHub, VS Code

#### Implementation Steps:

##### 1. Backend Setup (NodeJS + Express):

Set up API routes for login, resume management, roadmap fetching, and course suggestions.

Connected to MongoDB using MongoClient.

##### 2. Frontend Setup (ReactJS):

Built pages for Login, Dashboard, Resume Builder, ATS Checker, Communication Module.

Integrated Axios for API calls and localStorage for session management.

##### 3. Database Design:

Collections: users, resumes, roadmaps, courses, quizzes.

Inserted sample data to support initial testing.

##### 4. AI-Powered Modules:

Resume Generator: Inputs user details → sends prompt to GeminiAI → outputs formatted resume.

5. ATS Score Calculator: Parses uploaded resume and compares with job role using GeminiAI.

6. Speech Feedback: Sends voice to Whisper API → gets transcript → GeminiAI generates feedback.

7. Mock Interview: Accepts video → extracts audio → transcripts and feedback via AI.

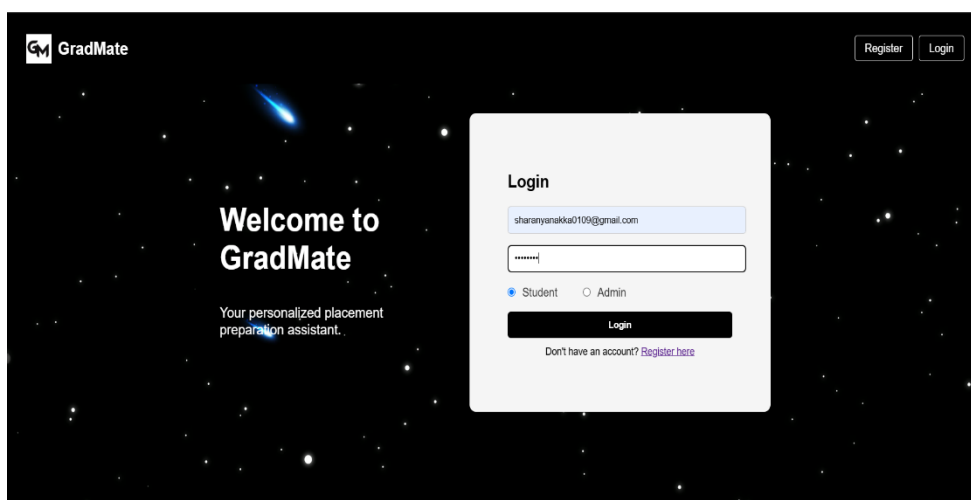
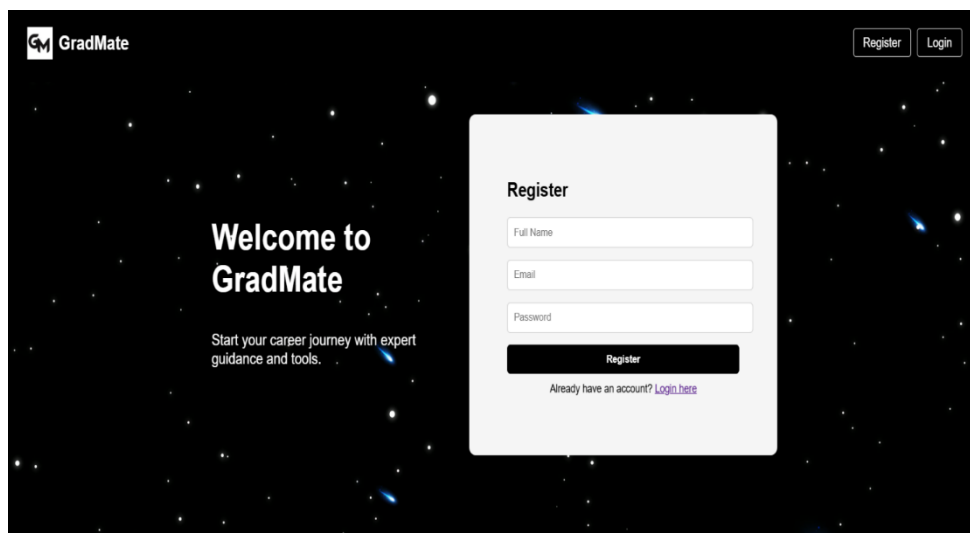
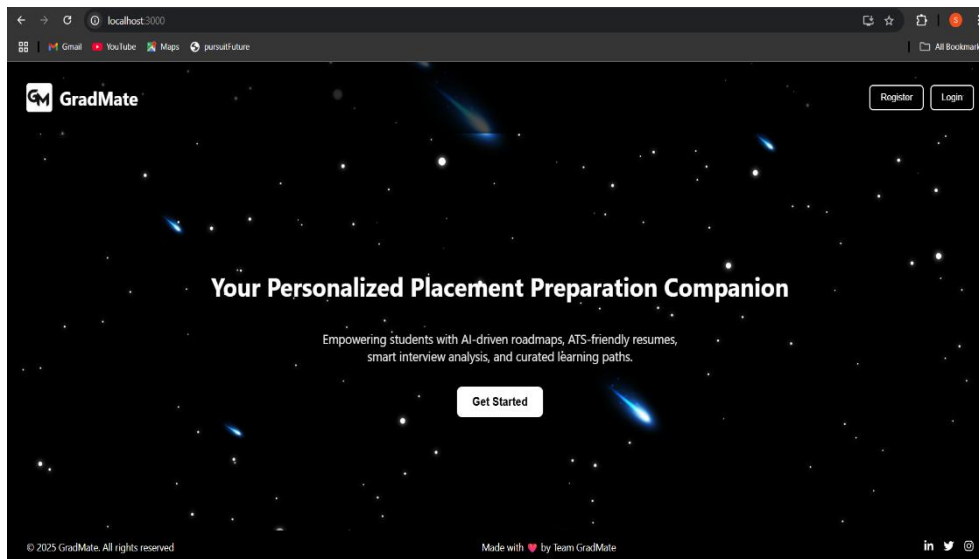
## IV. IMPLEMENTATION

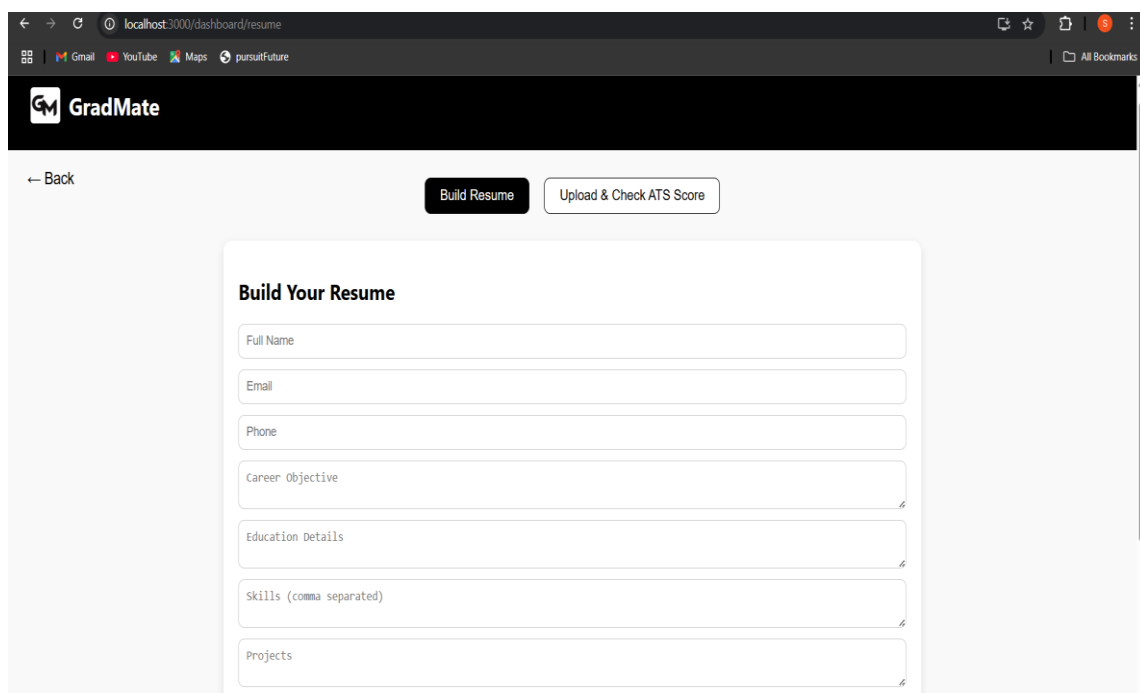
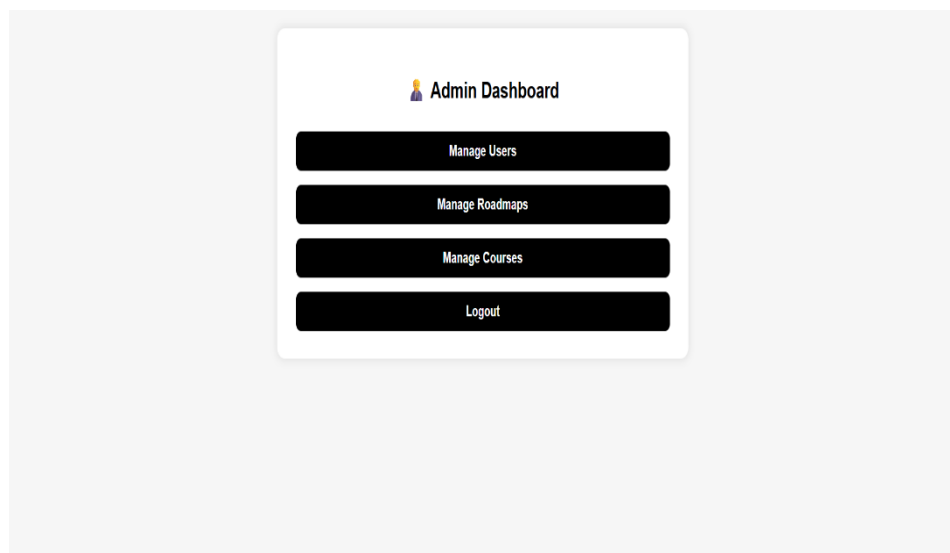
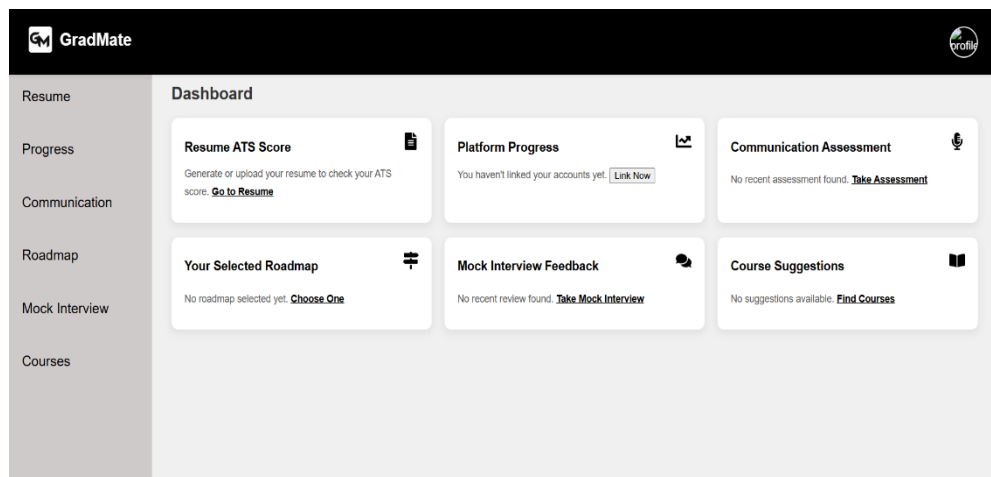
Technologies Used

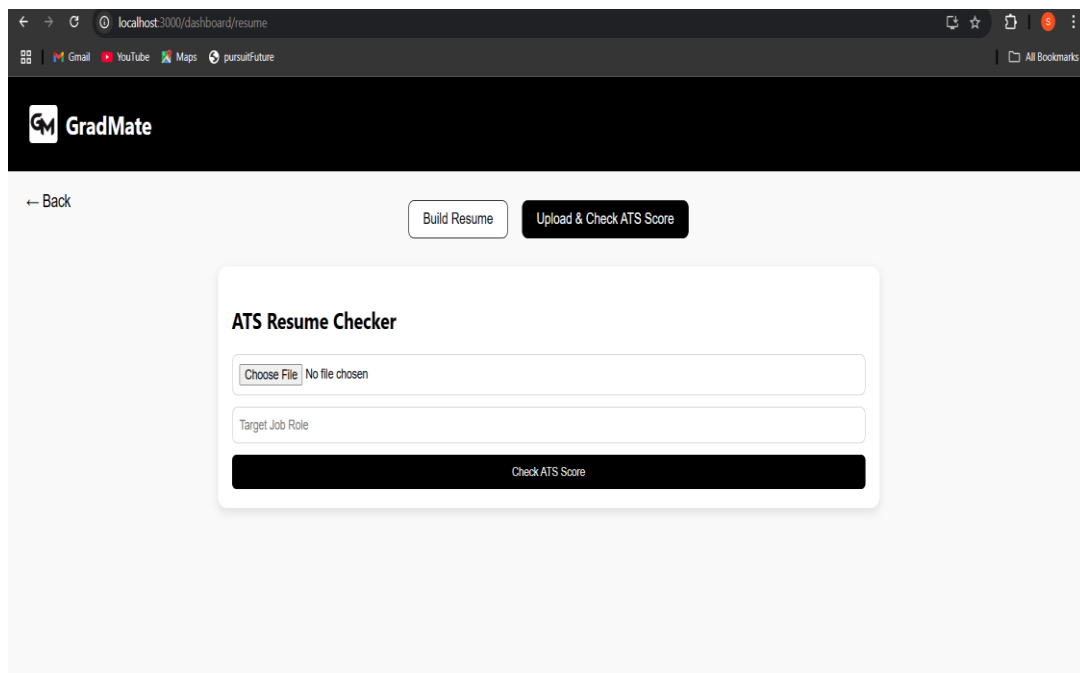
Frontend: ReactJS

Backend: NodeJS, ExpressJS

## V. RESULT







## VI. CONCLUSION

GradMate provides a comprehensive, smart, and goal-driven platform for placement preparation. By integrating multiple features into a cohesive environment and leveraging AI-driven feedback, it helps students build confidence and readiness for real-world careers. With future upgrades like certificate generation, peer collaboration, and industry-aligned content, GradMate aims to redefine how college students approach placements.

## REFERENCES

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