

Capstone Review 1 Report

Group – 185

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Student AI Assistant for Placement Preparation

1. Problem Definition

Many students—especially from Tier-2 and Tier-3 colleges—face fragmented, inaccessible, and time-consuming processes when preparing for campus placements. They often need to juggle multiple platforms: coding practice sites, resume builders, PDF summarizers, interview mock tools, and alumni networks.

This scattered ecosystem lacks personalization and end-to-end guidance, leading to:

- Inefficient preparation cycles.
- Missed opportunities due to weak resumes or poor interview practice.
- Unequal access to insider knowledge from alumni.

The absence of a **centralized, student-focused assistant** creates a major barrier to effective placement preparation.

2. Application (Core Novelty Features)

The proposed solution is an AI-powered Student Assistant for Placement Preparation that provides a unified platform instead of scattered tools. Its novelty lies in:

- Alumni Assistance (Novelty):-
 - AI-curated alumni insights and experiences.
 - Alumni matching based on role, skills, and background to suggest proven career paths.
 - Paid Guidance Sessions from Alumni based on availability.

- Mock Interview Simulator with Feedback:-
 - Simulates GD, HR and Technical interviews.
 - Provides real-time feedback on soft skills (tone, clarity, filler words) and technical accuracy.
- Gap Analyzer & Personalized Roadmap:-
 - Compares a student's resume with the requirements of chosen roles
 - Generates a custom learning path (coding practice sets, courses, project ideas).
- AI-Driven Resume Analyzer & Builder:-
 - Evaluates resumes against target job descriptions.
 - Provides quantified bullet point suggestions and highlights missing skills.

3. Supportive Features (Enhance Utility):-

- PDF / Notes Summarizer & Flashcard Generator:-
 - Converts lecture notes and placement guides into concise summaries and quizzes.
- Company-Specific Prep Insights
 - AI assistant answers FAQs like "*How to prepare for Amazon SDE interview?*" using alumni + web data.
- Skill Tracker & Dashboard
 - Monitors progress in coding, projects, and interview practice.
 - Visual dashboard shows readiness percentage for selected companies.
- Integration with External Platforms (***future scope***)
 - APIs for LinkedIn or GitHub to track profile strength.
 - Coding platform integration (LeetCode/Codeforces stats) for automated analysis.

4. Gap (Challenges) / Current Trend in Problem Domain:-

a. Current Trends

i. AI for Career Guidance:

1. Research highlights AI's potential in career counseling but notes challenges in personalization, privacy, and ethical deployment.

(Westman, 2021)

ii. Intelligent Tutoring Systems (ITS):

1. ITS research shows personalization improves outcomes, but integration into real-world student workflows remains underexplored.

(Létourneau et al., 2025)

iii. Automated Mock Interviews:

1. Studies show AI-based interview simulators can build confidence and assess soft skills, but large-scale validation is still ongoing.

(Exploring AI-Driven Mock Technical Interviews, arXiv 2025)

iv. Resume Evaluation Tools:

1. NLP-based resume scorers exist, but they risk bias and often lack personalized career roadmaps.

(Jagwani, 2023)

v. Alumni Engagement Platforms:

1. Alumni networks support career growth but face challenges like participation, accessibility, and integration with students' preparation workflows.

(ResearchGate, 2025)

b. Research Gap

- i. Existing tools are fragmented and focus only on one aspect (resume, mock interviews, or learning).

- ii. There is no unified assistant that combines resume analysis, mock interviews, gap analysis, and alumni insights into a continuous improvement loop.
- iii. Alumni insights remain under-utilized, especially for students with no direct access to seniors.

5. Novelty of Proposed System:-

Our project introduces a centralized AI assistant tailored for students preparing for placements. The novelty lies in:

- Integration: A single platform combining resume → gap analysis → roadmap → mock interview → feedback → alumni insights.
- Alumni Assistance: AI-powered summarization of alumni experiences and matching students with relevant career paths.

Accessibility: Designed especially for Tier-2/3 colleges where placement guidance resources are limited.

6. References:-

- Stina Westman, Janne Kauttonen, et al. – “Artificial Intelligence for Career Guidance – Current Requirements and Prospects for the Future” - [link](#)
- “Navigating career stages in the age of artificial intelligence” [Link](#)
- “AI-Driven Mock Technical Interviews on Student Readiness and Confidence” (Gomez et al.) [Link](#)
- SimInterview: LLM-based Simulated Multilingual Interview Training System [Link](#)
- “AI Hiring with LLMs: A Context-Aware and Explainable Multi-Agent Framework for Resume Screening” [Link](#)

- “Fairness in AI-Driven Recruitment: Challenges, Metrics, and Mitigation” [Link](#)
- “Using generative AI to provide personalized career advice and skills mapping” [Link](#)
- “Enhancing Career Guidance With AI in Vocational Education” [Link](#)