

Rezumix: An AI-Powered Career Assistant with Resume Enhancer, Personality Insights, Career Guidance & Mock Interviews

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Abstract - In today's competitive job market, simply having a resume isn't enough — you also need to know how to present your strengths, identify your ideal career path, and confidently handle interviews. Rezumix is a modular, AI-powered platform that helps users across all these touchpoints. Built using Next.js (App Router), Tailwind CSS, MongoDB, and integrated with Gemini AI, it offers four independent tools: a Resume Analyzer and Enhancer, Personality Predictor, Career Recommendation and Mock Interview Simulator.

Unlike traditional systems, Rezumix focuses on personalization using LLMs, delivering context-aware feedback, suggestions, and recommendations. This paper outlines the motivation behind Rezumix, the technical framework, its AI integration, and a small-scale user study conducted with 40 users. We also compare its features with existing tools like LinkedIn AI and VMock to highlight its uniqueness.

Key Words: AI Resume, Career Guidance, Mock Interview, Personality Prediction, LLMs, Gemini, Google, ChatGPT, OpenAI

1. INTRODUCTION

Navigating career development today requires more than just technical skills. From building the right resume to choosing a career path and preparing for interviews, candidates face challenges that are often ignored by educational systems.

Existing tools like LinkedIn's AI resume assistant, VMock, and HireVue offer some support, but many are limited in customization, accessibility, or depth of feedback. This inspired the creation of Rezumix, an AI-powered platform that offers standalone tools focused on specific stages of career preparation.

1.1 Objective & Research Framework

This paper presents a technical implementation of Rezumix while aiming to:

- Demonstrate the feasibility of integrating LLMs into career tools
- Evaluate user feedback on four core modules

- Compare features with existing tools
- Outline future potential and challenges.

While this is not a traditional experimental study, we offer a proof-of-concept implementation, early user responses, and positioning within current market tools.

2. Tech Stack and System Overview

Rezumix is built entirely using modern, developer-friendly tools:

Frontend: Next.js (App Router), Tailwind CSS, Framer Motion

Backend/API Routes: Next.js Server Actions

AI Layer: Gemini API (Google's powerful LLM)

Database: MongoDB

Other Tools: HTML-to-text parsing, PDF processing, React Charts

System Flow:

Frontend (Next.js + Tailwind + Framer Motion)

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AI Layer (Gemini API)

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Backend (API Routes, MongoDB)

Each feature has its own endpoint and logic — cleanly separated.

3. Features (Independent Modules)

3.1 Resume Analyzer & Enhancer

Users can upload their resume. The system parses the content, checks for weak points, and then uses Gemini AI to provide personalized suggestions based on industry standards.

Features: ATS check, formatting feedback, keyword enrichment

Frontend Perks: Real-time suggestions, animation on result cards

Unlike LinkedIn’s resume feedback tool which focuses mostly on ATS scoring, Rezumix gives tailored suggestions using Gemini’s context-based LLM outputs.

3.2 Personality Prediction System

Users answer quick questions. Gemini AI reads the content, interprets psychological traits, and gives feedback like:

“You appear highly open to new experiences, which is great for roles in design or R&D.”

“You show strong conscientiousness — a good fit for structured tasks.”

The system doesn't ask for sensitive data. It only uses user input to generate meaningful insights.

3.3 Career Recommendation Engine

Not sure what job suits your vibe? This engine looks at your chosen interests, and recommends:

- Job roles
- Skill paths

Unlike other platforms, this one doesn’t overwhelm you — it gives 5-10 clear ideas based on you.

4. User Feedback and Basic Metrics

We ran a beta test with 42 users (30 students, 12 job seekers). Each participant used 2–4 features and completed a short survey.

Feature	Average Rating (out of 5)	Usage Rate (%)	User Comment
Resume Analyzer & Enhancer	4.6	95%	Clean, fast, made my resume job-ready
Career Recommendation	4.4	83%	Suggested paths I didn't think of.
Personality Prediction	4.3	78%	Fun and insightful. Felt accurate
Mock Interview	4.7	88%	Super realistic. Boosted my confidence

Note: This was a qualitative pilot study. No statistical testing was applied, but the feedback showed strong user satisfaction.

5. Future Scope

- Voice interview simulator with tone analysis
- LinkedIn optimizer based on your resume
- Conversation memory so it remembers your goals
- AI mentorship and career tracking dashboards

Future academic work can involve a formal comparative study and usability testing with statistical methods and a larger sample size.

6. Conclusion

Rezumix is not a single-purpose tool — it’s a multi-feature assistant for students and professionals. Each module is built independently, and users can access only what they need. With further iterations and research collaborations, it can grow into a robust platform blending personalization, AI, and career intelligence.

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BIOGRAPHIES



Devansh Agrawal is a 4th year B. Tech CSE student at The ICFAI University, Raipur. He specializes in full-stack development, AI integrations, and real-world application systems. Rezumix is his original solo project developed using the MERN stack, and Gemini API.