



AI for a Better Future: Career Guidance and Counselling AI

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Abstract

With the growing influence of Artificial Intelligence (AI) across every field, our team felt inspired to use its potential for the benefit of students. Preparing for jobs and competitive exams can often feel overwhelming—there's too much material scattered across different sources, and students struggle to figure out what really works for them. To bridge this gap, we came up with the idea of building an AI-powered career guidance and coaching platform.

At its core, this platform is like a one-stop solution that brings together the best tools and resources for learning, practice, and guidance—all in a single space. Instead of wasting time searching endlessly, students can rely on a system that offers personalized support, adapting to their strengths and weaknesses.

What makes this initiative meaningful is that it's not limited to just tech-based job seekers. It also supports those preparing for competitive exams and non-technical fields, making it accessible for a wide range of learners. We wanted it to feel less like a rigid study app and more like a 24/7 mentor and motivator that students can trust.

With features such as AI-driven practice tests, tailored study plans, instant feedback, and even motivational guidance, the platform aims to ease the burden of preparation. For many students, it could turn out to be more than just a tool—it could become a companion in their journey, helping them stay confident and focused as they work towards their goals.

Introduction

The foundation of our product addresses a very fundamental problem which is the lack of accessible, customized (as per the needs) and reliable career guidance tool. The traditional approach or tools – while valuable – very often, fail to provide an immediate and tailored insights that modern job seekers require. Some of the factors such as basic resume templates, out-dated interview advice and the absence of experienced one-on-one mentorship may leave many candidates confused and underprepared. This project's

foundational framework is based on the fact that AI can absolutely revolutionize, democratize and personalize career support, certainly making it more accessible, impactful and efficient.

Let us take a real life example: Viraj wants a secured, high-paying job after getting his undergraduate degree in Computer Sciences.

He aspired to be a software engineer at Google and starts his preparation from available sources such as YouTube and Google or any other source available. Now, he is confused in what course to begin with and gets trapped in what we call the “preparation hell”. He has no clue about which courses to pick and in what time frame should he complete it and after a certain period of time when he applies for the job, he knows that he is not fully prepared for the interview process or some technical exam.

Just like Viraj, many individuals struggle to craft compelling and targeted resumes, prepare for interviews and balance on shifting industrial expectations which creates a wide gap between them and their goals.

Literature reviews and surveys

This section reviews the current research papers and articles to bring forth the existing findings and researches on the particular topic. The following papers present issues regarding the existing systems, applications and models surrounding the role of AI in career guidance:

Abraimova, D. and Beldeubayeva, Z. 2025. Artificial Intelligence in Career Guidance: Current Issues and Future Prospects. Eurasian Science Review An International peer-reviewed multidisciplinary journal: This paper explores the integration of Artificial Intelligence and related technologies such as machine learning, neural networks and NLP – into career guidance platforms. It discusses the use of AI in personalised career recommendations as well as some challenges related to user data privacy and real time market integration.

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A similar research by *Fabricio Trujillo, Marcelo Pozo, Gabriela Suntaxi* on Artificial intelligence in education: A systematic literature review of machine learning approaches in student career prediction proposes a similar approach by using several machine learning techniques such as Random Forest and Support Vector Machines (SVMs). This research was highly appreciated by various researchers around the globe because they studied a vast sample size of around 38 studies.

With the recent advancements in technology, not only websites but some apps are also being integrated with Artificial Intelligence to discover the wide plethora of career options and roadmaps, specially curated and customized as per the needs of the user. This approach towards AI in a way that is for the betterment of our society and contributes to human welfare in any form encourages people not to think that AI is going to replace humans.

According to a new survey conducted by Workplace Intelligence, an industry research agency and INTOO, a talent development firm. A total of 1,600 full time workers were surveyed about their career guidance experience with 18% of the total research pool belonging to Gen Z.

A really surprising result was that 47% of the Gen Z said they'd rather turn to ChatGPT to get a better career advice than what t

heir manager or supervisor suggested. 52% of the total pool said they would turn to social media and stated that they do want to discuss about their career with their managers, but the manager is too busy.

To retain employees and to maintain a healthy work life balance in the workspace, the managers or supervisors must try to engage more learning and mentoring opportunities to the workers and encourage them to explore more career options to expand their knowledge and gain some social exposure through engagements. In a concluding statement the survey said, the companies shouldn't overlook the young talent as they may contribute more learning and enthusiasm to the workplace.

Aims and Objectives

1. Aim

Keeping in mind all the previous researches and findings till date, this project aims to present a platform named "Aspire AI" which is developed to overcome the shortcomings of some recent AI career guidance platforms. The following details emphasise on its working, uniqueness and how it can provide an intelligent, smart and efficient solution for career development.

2. Objectives

- **Personalized Document Generation**

Leverages the Google Gemini API to generate real time professional and customized resumes and cover letters based on the user's targeted job profiles and job interests.

- **Mock Interview Simulations**

Creates intelligent and customized interview simulations to the selected roles or domains which the user selects, enabling him to practice and gradually build confidence.

- **User-Centric Interface**

It is focused on providing a minimalistic and responsive interface for seamless navigation and usability.

- **Real Time Interaction**

Provides the user with quizzes and questions on the selected areas of interests and then evaluates the scores each time user refreshes.

- **User Data Analytics**

Equips user with timely updates along with progress tracking and performance insights through a analytics dashboard.

Methodology

This paper focuses on a platform "Aspire AI" which is designed for the objectives that were in the above mentioned section.

1. Platform/Website

Figure 1.1 represents the flow diagram or the general methodology of the **Aspire AI** platform. Upon opening the website, the landing page (Fig. 2.1) is displayed which has a navigation menu having 4 icons leading to different pages in the respective order (Career guidance, Interview preparation, Industry Insights, Resume and Cover letter generation).

- The Home Page or the Landing Page (Fig 2.1) consists of general information along with services in a separate section which leads to the desired pages.
- The Profile Creation Page (Fig 2.2) will pop up to gather the necessary details about the user skills, job requirements etc.
- The Industry Insights Page (Fig 2.3) displays the live industry insights which may help the user to discover some useful insights such as job demand level, top skills, market outlook and industry growth in that particular domain.
- The Cover Letter and Resume Generation Page (Cover letter generated in Fig 2.4) consists of a resume generator which can generate an appropriate resume according to the user's needs. The cover letter generator creates a generic template for applying through mails or messages.
- The Mock Interview or the Interview Preparation Page (Fig 2.5) consists of the tests and quizzes based on user's preferences. It pops up with questions around any skill which the user wants to practice on.

Figure 1.1

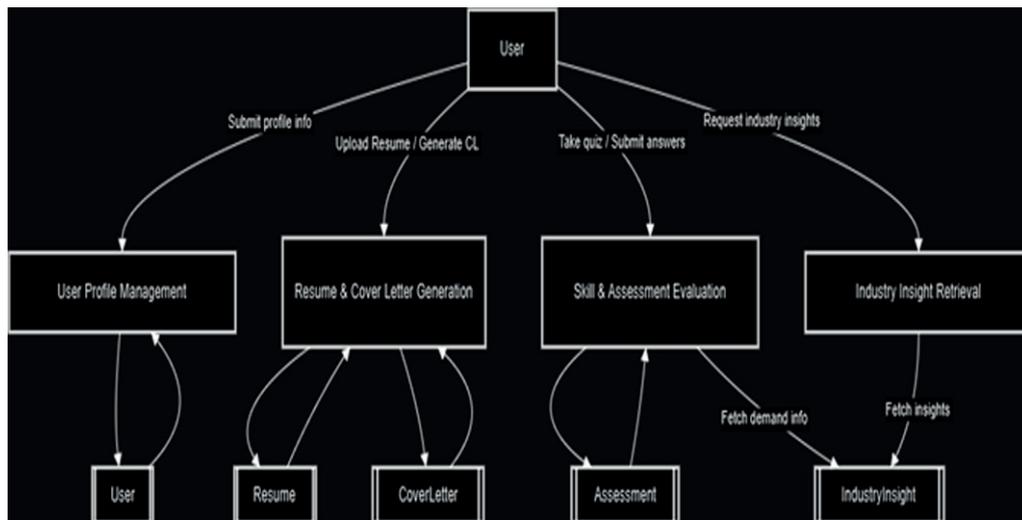


Figure 2.1

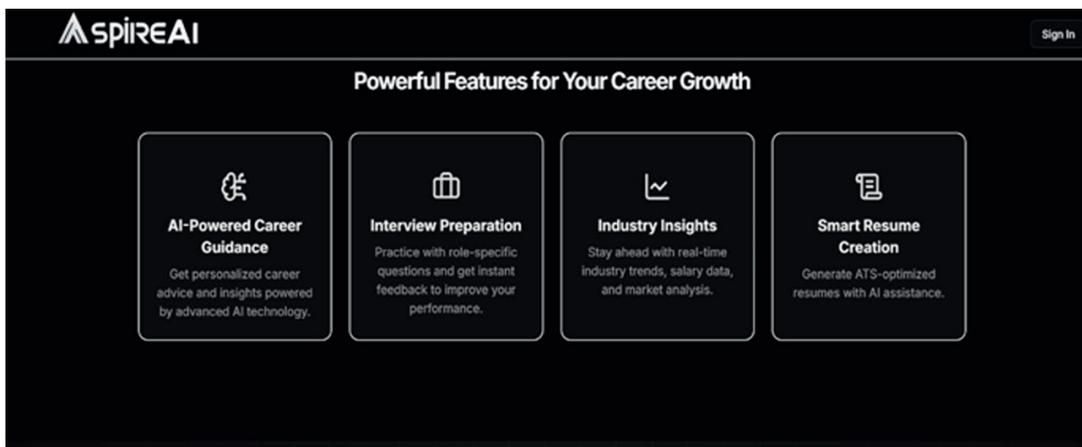


Figure 2.2

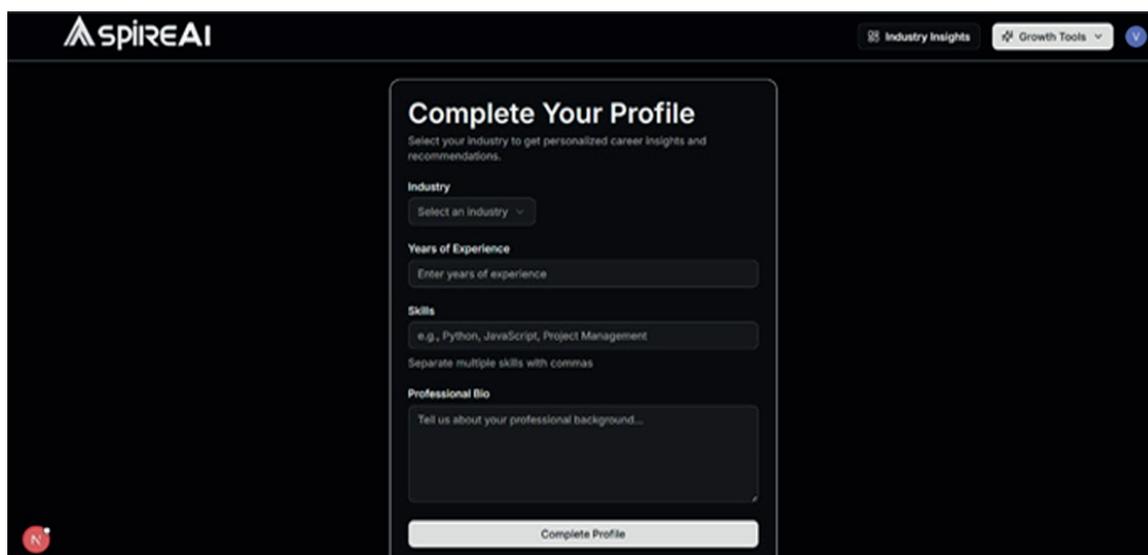


Figure 2.3

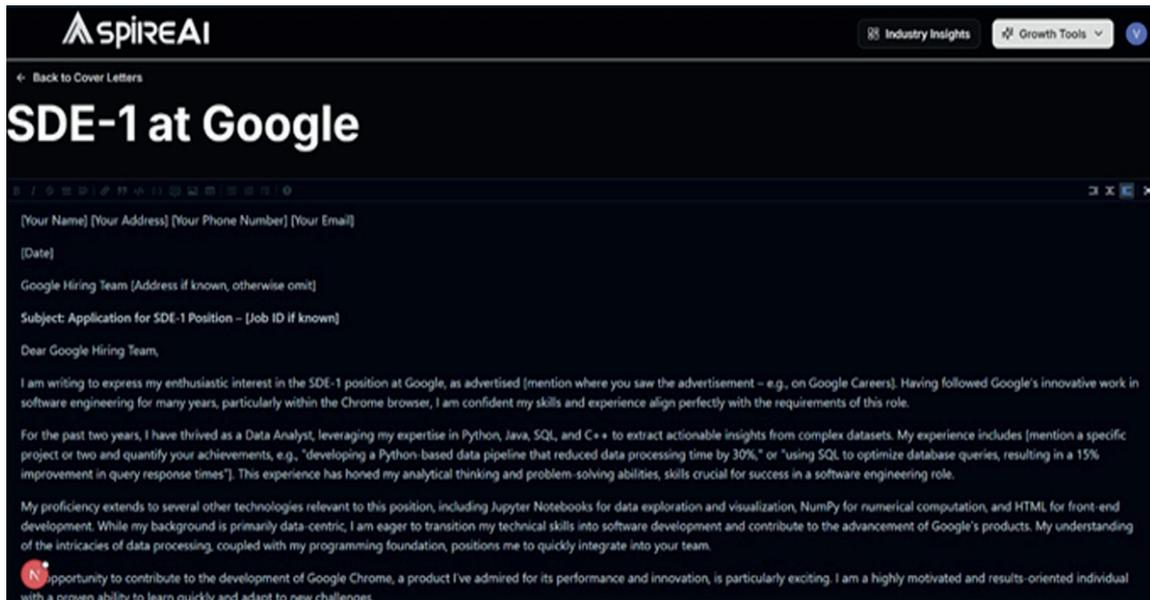


Figure 2.4

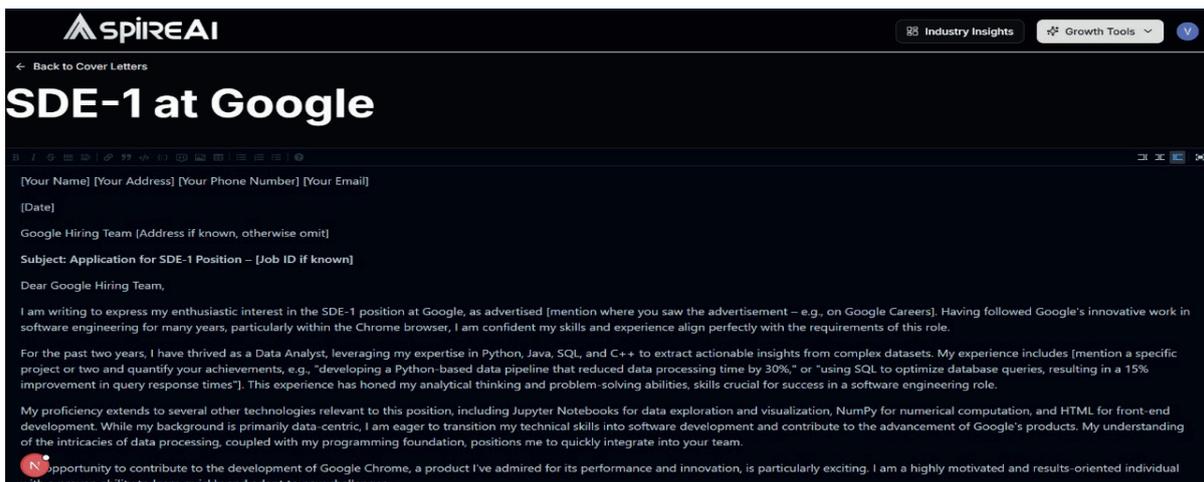
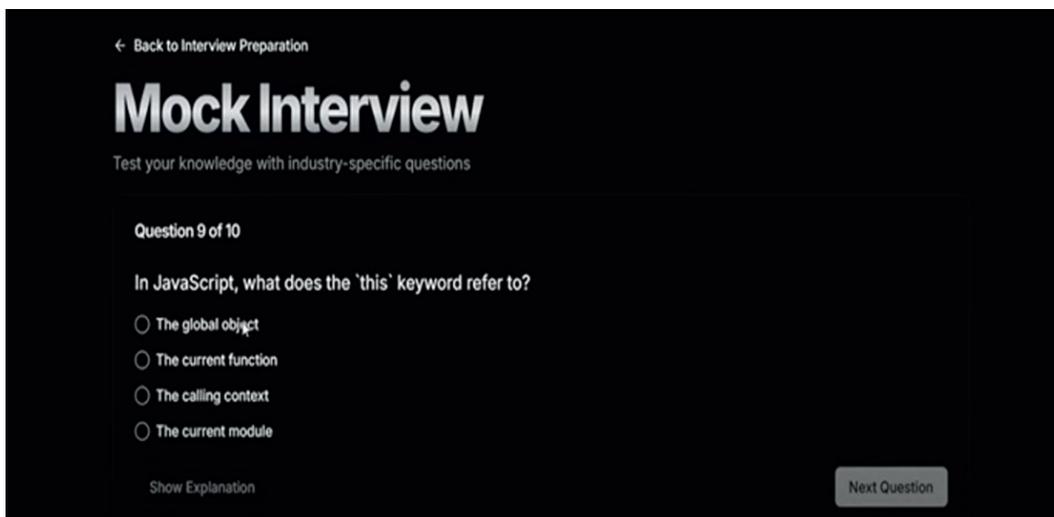


Figure 2.5



Working

The basic working of the platform is explained in the following points in brief:

Frontend

Next.js is a React-based full-stack web framework developed by Vercel much after react. It enables features such as server-side rendering (SSR), static site generation (SSG), API routes, and many other things on top of React. Next is great for building dynamic, SEO-friendly, and full-stack web applications with a modern website developer experience.

Tailwind CSS is a utility-first CSS framework that basically allows you to style your components directly in markup using predefined class name. Helps build modern UI components without writing complex CSS, especially in combination with other component libraries like SHADCN/UI or Headless UI as preferred by many developers.

Backend

Prisma is a TypeScript ORM (Object Relational Mapper) for Node.js framework. It lets you interact with your database in a type-safe way. Used in backend apps such as Next.js API routes to query and manipulate your existing database while maintaining strong TypeScript code.

Neon is a serverless PostgreSQL database platform. It's cloud-native, fully managed, and designed to be scalable and cost-effective. Ideal for its use with serverless frameworks like Next.js where storage like PostgreSQL is needed without the complexity of managing bigger traditional database servers.

Authentication and data ingestion

Clerk is a developer-first authentication and user management platform for modern web apps. Clerk is used to handle authentication and authorization in a secure, scalable platform without building it from scratch. It fits nicely into any full-stack Next.js apps or platform.

Ingest is a service/platform that lets you build chatbots or knowledge bases from uploaded documents (PDFs, CSVs, websites, etc.) using LLMs like OpenAI. It helps in ingesting content (like docs or product data) into a vector store for search/chat, or collecting analytics data or queries from users in real time.

Conclusion and Future Scope

The platform "Aspire AI" has the potential to enhance job search and career counselling by providing a list of useful features and a clean & simple interface. It empowers its users with industry insights, performance analytics and document generation such as cover letter and resume.

Future Directions

- **Accessibility:** Providing the users with a clean intuitive interface which also helps the people navigate easily.
- **More Advanced Features:** Integration with high end technologies like facial recognition, biometric triggers and voice commands can be utilised for the further development of this project.
- **Optimised recommendations:** With the help of recommendation mechanisms and various machine learning algorithms, the users will be able to access the best courses and roadmaps for the job they aspire. Also, predicting the chances of acceptance in accordance with the resume submitted and industry scenario to help user focus on their weaknesses and strengths.
- **Community Engagement:** Spreading industry awareness by fostering a strong community of users who can form information sharing groups and organise mentoring campaigns to emphasise the use of such methodologies.
- **User privacy and security:** Usage of more secure and robust ways to safeguard user's information and introducing new security measures to minimise the rate of content generation failures.

By continuously evolving and adapting to emerging technologies and user needs, Aspire AI may become one of the leading solutions in ensuring not only career guidance but also become a boon for anyone who feels the need of this app and empowering them to target their dream jobs.

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