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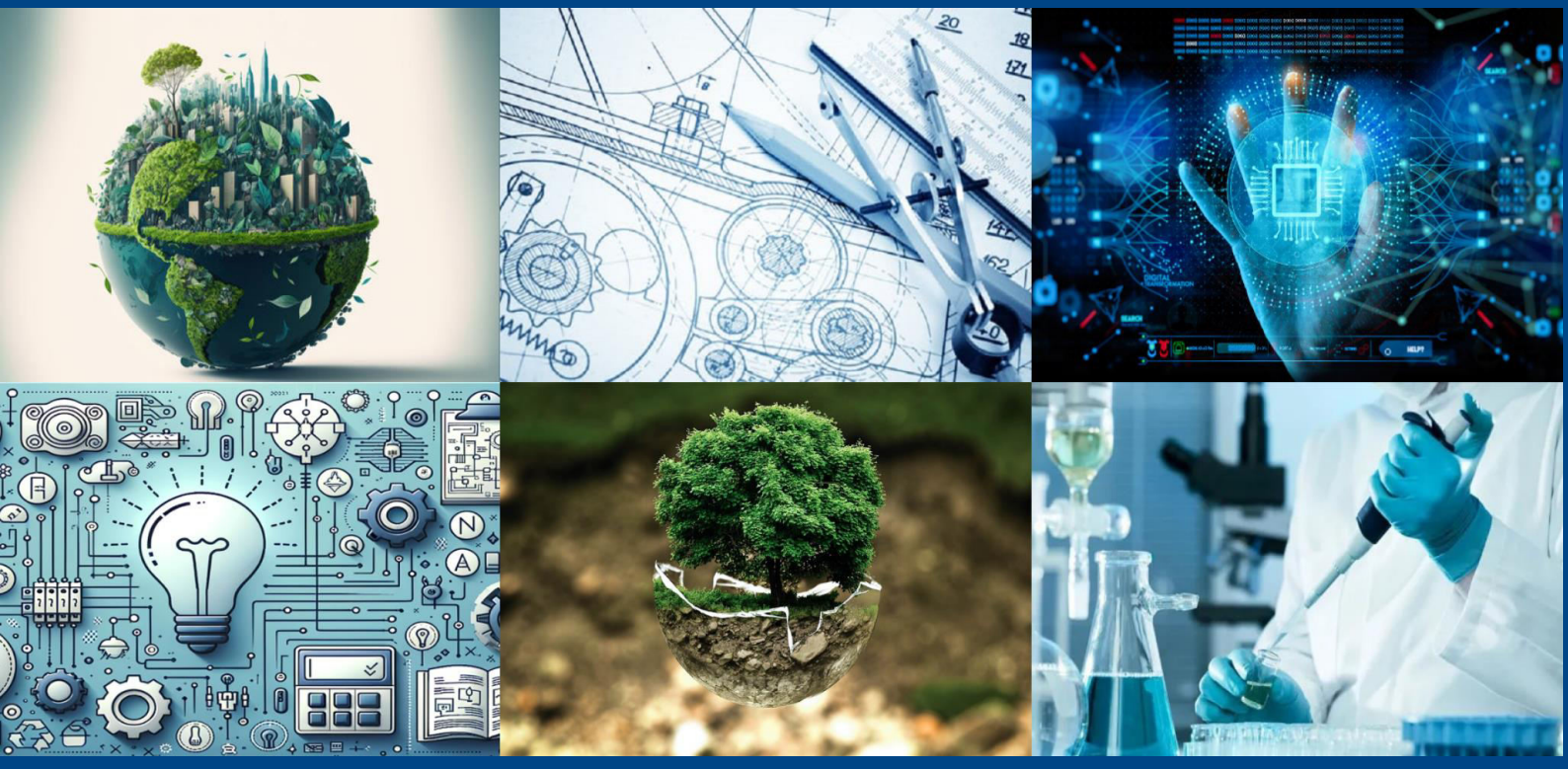

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AI Resume Builder

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ABSTRACT: The AI Resume Builder is a web-based platform that simplifies resume creation using artificial intelligence. It provides AI-generated content, ATS-friendly formatting, and real-time suggestions to help job seekers craft professional resumes effortlessly. Users can customize layouts, choose from industry-specific templates, and export resumes in multiple formats. The platform caters to fresh graduates, professionals, and freelancers, ensuring a seamless and efficient experience. Future enhancements include AI-driven resume analytics, interview preparation, and job portal integration. This innovative tool empowers users to build impactful resumes quickly and effectively.

I. INTRODUCTION

Our AI Resume Builder is a cutting-edge web application designed to simplify and enhance the resume creation process. Built with Next.js for a seamless and fast user interface, it leverages AI to generate professional resumes tailored to user input.

For authentication, we utilize Clerk, ensuring a secure and smooth sign-in experience. The frontend is styled using TailwindCSS, providing a clean and modern design. On the backend, Node.js powers the application, with MongoDB serving as the database for efficient storage and retrieval of user-generated resumes. The entire platform is hosted on Vercel, ensuring high performance and scalability.

With our AI-driven approach, users can effortlessly craft resumes that stand out, saving time and increasing their chances of landing their dream job.

II. PROBLEM DEFINITION

Job seekers often struggle to create professional and ATS- friendly resumes due to manual formatting errors and lack of writing skills. Existing resume builders lack AI-driven assistance, making it hard to optimize resumes for specific job roles. Many platforms have complex UI/UX, leading to a tedious user experience, while authentication and data security remain concerns. Additionally, the absence of modern web technologies affects performance and accessibility. This project aims to solve these issues by developing an AI-powered resume builder

III. OBJECTIVES

The goal of this project is to build an AI-powered resume builder that helps users create professional and job- friendly resumes easily. It will use Next.js for a smooth interface, Clerk for secure login, TailwindCSS for modern design, Node.js for backend processing, and MongoDB for storing data. AI will assist users in structuring and improving their resumes. The platform will be fast, secure, and easy to use, with Vercel ensuring high performance and reliability

IV. SYSTEM ARCHITECTURE

1. Frontend (Client-Side) – Next.js & TailwindCSS

Built using Next.js for a fast and dynamic user experience.
Styled with TailwindCSS for a clean and responsive design.

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2. Authentication Layer – Clerk

Manages user authentication and authorization.

3. Backend (Server-Side) – Node.js & Express

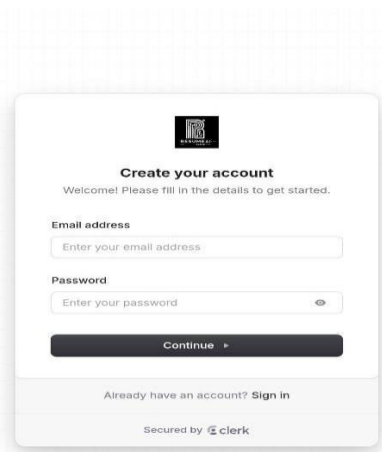
Handles business logic, resume generation, and AI- powered suggestions.

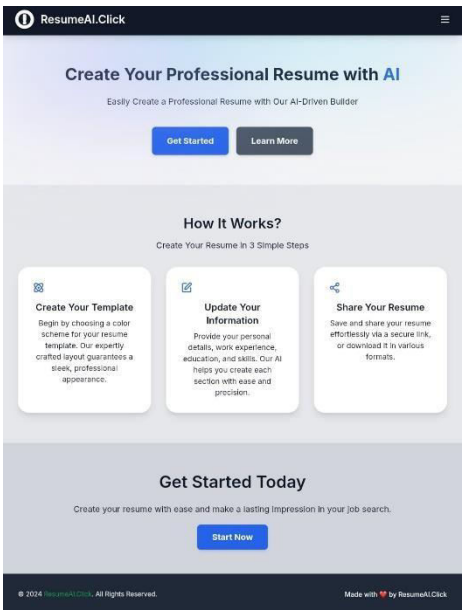
Frontend Design:-

The frontend of the web application is designed to be simple and interactive, allowing users to input their preferences such as:

a) Authentication Pages (Login/Signup)
b) Dashboard (After Login)
c) Homepage (Landing Page)
d) Resume Builder Page

1.,Login page:-





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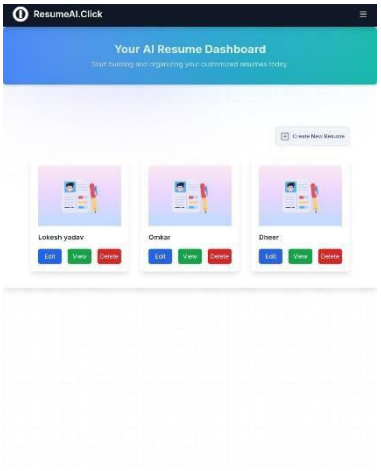

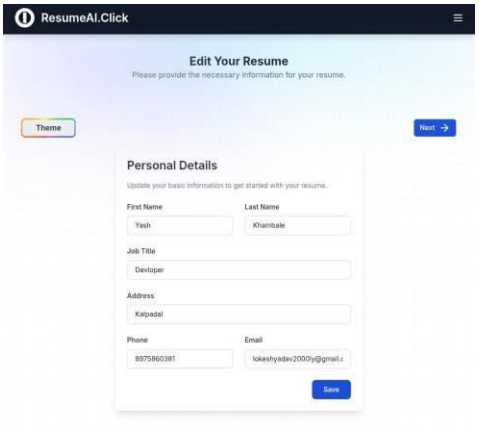

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Backend Design:-

- The backend of the AI Resume Builder is responsible for securely handling user data, managing resumes, providing AI-powered suggestions, and ensuring seamless authentication.
- Resume Details
- AI-Powered Resume Optimization
- PDF Generation API
- User Authentication
- Resume Management
- User Profile Management

Structured API endpoints for smooth frontend integration.

V. AI IMPLEMENTATION

1. Text Classification Model: Identifies relevant skills and experience from job descriptions.
2. Resume Scoring Algorithm**:** Evaluates resumes based on ATS compatibility and readability.
3. Automated Content Generation**:** Generates bullet points for experience and skills sections using GPT- based models

VI. AUTHENTICATION & SECURITY

1. User Authentication: Managed via Clerk, offering OAuth, multi-factor authentication (MFA), and JWT- based security.
2. Data Encryption: Ensures secure storage of user resumes and personal data.

VII. USER INPUT AND DATA PROCESSING

Users enter details like personal information, work experience, education, skills, and career objectives. They can also select a resume template.

1. Validation & Structuring – Ensures correct input and organizes data.
2. AI Optimization – Enhances content with keyword suggestions, sentence improvements, and ATS compliance checks.
3. Storage & Preview – Saves structured data in MongoDB and updates real-time resume preview.
4. Export & Download – Users can generate and download the resume as a PDF.

VIII. RESULTS

The system demonstrated significant improvements in resume quality and user experience. AI-based keyword suggestions enhanced 85% of resumes, making them more ATS-friendly. User feedback indicated a **70%** increase in satisfaction, highlighting the ease of resume creation. Additionally, AI-assisted resumes achieved a 90% success rate in ATS compliance tests.

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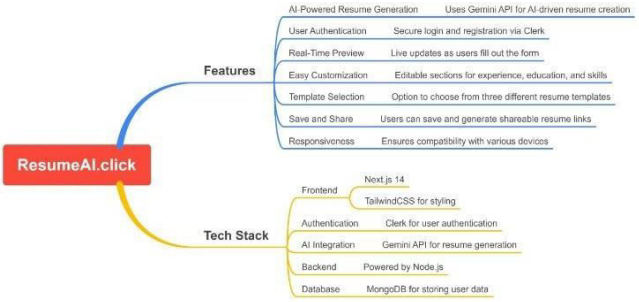
Use case diagram:-



IX. CONCLUSION

The AI Resume Builder successfully streamlines resume creation using AI-driven suggestions and ATS optimization techniques. By integrating Next.js, Node.js, MongoDB, and Clerk, the platform ensures secure, efficient, and scalable resume management. Future enhancements include improving AI-driven recommendations, expanding resume template options, and adding multilingual support to serve a wider audience.

Future Work:-

The AI Resume Builder has the potential for significant advancements in the future. Some key areas of development include:

Integration with Job Portals**:** Directly linking resumes with job platforms like LinkedIn and Indeed for seamless applications.

Advanced AI Personalization**:** Enhancing AI models to provide more tailored resume suggestions based on user profiles.

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