PROJECT REPORT

SMART RESUME BUILDER WITH AI SUGGESTIONS

INTRODUCTION

In today's competitive job market, having a well-crafted and personalized resume can significantly impact job opportunities. Many individuals struggle to write professional summaries and descriptions that best represent their skills. This project, *Smart Resume Builder with AI Suggestions*, is a web-based application designed to assist users in building high-quality resumes by providing AI-generated suggestions to improve the content of their resume summaries.

The core idea is to integrate OpenAI's GPT-3.5 model into a user-friendly web app, allowing real-time enhancement of resume inputs with intelligent language suggestions.

ABSTRACT

This project leverages modern full-stack web technologies and OpenAI's GPT-3.5 API to deliver a resume-building experience that's both interactive and AI-powered. The user enters resume fields such as name, summary, experience, and skills into the form-based UI. Upon clicking the **AI Suggest** button, the entered summary is sent to the backend server, which forwards it to the OpenAI API. The improved version of the summary is then returned and displayed to the user.

The system combines React (for frontend), Node.js and Express (for backend), Tailwind CSS (for styling), and Axios (for HTTP communication). The application enhances resumes through professional, AI-assisted content generation, thereby reducing writing effort and increasing the effectiveness of the resume.

TOOLS USED

This project utilizes a modern full-stack technology stack to ensure responsiveness, scalability, and real-time performance. The frontend is developed using **React.js**, which enables the creation of dynamic and component-based user interfaces. For styling, **Tailwind CSS** is used to rapidly build custom layouts with a utility-first approach. The backend is built on **Node.js** using the **Express.js** framework, which allows for efficient routing and API development. Communication between the frontend and backend is handled using **Axios**, a lightweight HTTP client. At the core of the AI functionality is the **OpenAI GPT-3.5 API**, which provides natural language suggestions for improving resume summaries. The entire project is developed using **Visual Studio Code (VS Code)** as the code editor. For version control and collaborative sharing, **Git** and **GitHub** are used, enabling safe and trackable progress of the codebase.

STEPS INVOLVED IN BUILDING THE PROJECT :

- **Created Frontend (React + Tailwind)**

Initialized the project using `create-react-app` and installed Tailwind CSS for styling.

- **Designed Resume Form UI**

Developed input fields for name, summary, experience, and skills with responsive layout.

- **Set Up Backend (Node.js + Express)**

Created a server using Express.js with an API route `/ai/suggest` to process summary input.

- **Connected to OpenAI GPT-3.5 API**

Backend used the `.env` file to securely store and send the API key to OpenAI's language model.

- **Integrated Axios for Frontend–Backend Communication**

Used Axios to send the user's summary to the server and receive the AI-generated improvement.

- **Displayed AI Suggestions Dynamically**

Output was rendered below the form to show the enhanced version of the user's summary.

CONCLUSION

The Smart Resume Builder successfully combines frontend design, backend logic, and AI to deliver a modern tool that empowers users to craft more effective resumes. With real-time suggestions powered by OpenAI, this project demonstrates how artificial intelligence can be seamlessly integrated into everyday applications to enhance user productivity. The project also serves as an excellent example of using full-stack technologies for building intelligent, user-friendly web apps.