

# SMART RESUME BUILDER

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## 1. Introduction

The Smart Resume Builder is a web-based tool that allows users to create professional resumes easily. It streamlines the resume writing process by providing an intuitive interface and offers AI-based improvement suggestions to enhance resume quality.

## 2. Abstract

This project aims to automate and improve the resume creation process by integrating a React-based frontend, a Node.js and Express backend, and MongoDB for data storage. It also integrates AI using the Hugging Face API to suggest enhancements to the user's resume content. The final resume can be downloaded as a polished PDF, making the platform a one-stop resume building solution.

## 3. Tools Used

Frontend: **React.js, Tailwind CSS**

Backend: **Node.js, Express.js**

Database: **MongoDB Atlas**

AI Integration: **Hugging Face Inference API (Mistral-7B)**

PDF Generation: **html2pdf.js**

Version Control: **Git and GitHub**

## 4. Steps Involved in Building the Project

- **Frontend Development:**

Built the resume form and preview layout using React components and styled them using Tailwind CSS. A dark mode toggle was added for user preference.

- **Backend Development:**

Set up REST API routes with Express.js to handle saving resume data to MongoDB Atlas. Used dotenv for secure environment variable management.

- **AI Suggestions Integration:**

Used Hugging Face's hosted Mistral model to receive improvement suggestions based on user resume data. A separate module (aiSuggest.js) was created to handle API requests securely.

- **PDF Download:**

Implemented html2pdf.js to allow users to download their resume in high-quality A4 PDF format directly from the preview section.

- **Testing & Debugging:**

Validated form inputs, ensured compatibility across themes (light/dark), and resolved edge cases like API errors or missing fields.

## 5. Conclusion

The Smart Resume Builder is a complete solution that helps users build effective resumes with ease. By combining UI simplicity with AI-driven suggestions, it enhances user experience and resume quality. The modular codebase allows easy scalability for future features like multiple templates or integration with job platforms.