

Internship Project Report: AI Resume Builder

1. Introduction

The AI Resume Builder is a web-based application designed to help users create, customize, and enhance their resumes using artificial intelligence. The project was developed as part of my internship to explore modern full-stack development practices, AI integration, and secure authentication mechanisms.

Objective

- Provide an intuitive platform for resume creation.
 - Leverage AI for content suggestions and improvements.
 - Ensure a seamless user experience with real-time previews and PDF export.
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2. Technologies Used

Frontend

- React.js – For building dynamic and responsive UI.
- Tailwind CSS – For styling with utility-first CSS.
- Redux Toolkit – For state management.

Backend

- Node.js & Express.js – For server-side logic and API handling.
- Docker – For containerization and deployment.

Database

- MongoDB – A NoSQL database for storing user data and resumes.

AI Integration

- Gemini/OpenAI API – For AI-powered resume suggestions.

Authentication

- JWT (JSON Web Tokens) – For secure user sessions.
 - Bcrypt – For password hashing.
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3. Key Features Implemented

Feature	Description
User Authentication	Secure sign-up/login with JWT and bcrypt.
Dashboard	Users can view and manage all their resumes.
AI-Powered Suggestions	AI provides real-time content improvements.
Customizable Templates	Multiple resume templates for different job roles.
Live Preview	Instant updates as users edit their resumes.
PDF Export	One-click download in PDF format.

4. Project Structure

The project follows a modular structure:

text

```
Ai-Resume-Builder/  
├── Backend/      # Node.js + Express backend  
├── Frontend/     # React frontend  
├── Screenshots/  # UI previews  
├── README.md     # Setup & documentation  
├── (Deprecated) ai-resume-builder-backend/  
└── Report
```

5. Implementation Details

Backend Development

- Built RESTful APIs for user authentication, resume CRUD operations.
- Used MongoDB to store user profiles and resume data.
- Implemented JWT-based authentication for security.

Frontend Development

- Created interactive UI with React and Tailwind CSS.
- Managed state efficiently using Redux Toolkit.

- Integrated AI APIs for resume suggestions.

AI Integration

- Used Gemini/OpenAI to analyze and suggest resume improvements.
- Provided auto-generated content for skills, experience, and summaries.

Deployment

- Used Docker for containerizing the backend.
 - Deployed frontend using Vite for optimized performance.
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6. Setup & Installation

Prerequisites

- Node.js, npm
- MongoDB (local or Atlas)
- Docker (optional)
- OpenAI/Gemini API key

Steps to Run

1. Clone the repository:
2. `bash`

`git clone https://github.com/bhagwan388/Ai-Resume-Builder.git`

3. `cd Ai-Resume-Builder`
4. Set up environment variables (.env files for backend & frontend).
5. Install dependencies:
6. `bash`

`cd Backend && npm install`

7. `cd ../Frontend && npm install`
 8. Run the application:
 - Backend: `npm run dev` (Port: 5001)
 - Frontend: `npm run dev` (Port: 5173)
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7. Challenges & Solutions

Challenge	Solution
Real-time resume updates	Used React state management with Redux.
Secure authentication	Implemented JWT with bcrypt hashing.

AI integration delays

Optimized API calls with caching.

PDF export formatting

Used libraries like react-to-pdf.

8. Learning Outcomes

- Gained hands-on experience in full-stack development.
 - Learned AI integration in web applications.
 - Improved skills in state management (Redux) and authentication.
 - Understood Docker for containerization.
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9. Future Enhancements

- Multi-language support for global users.
 - ATS (Applicant Tracking System) optimization for resumes.
 - More AI-driven features (e.g., job matching).
 - Mobile app development (React Native).
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10. Conclusion

The AI Resume Builder project successfully delivers a modern, AI-powered resume creation tool with a secure and user-friendly interface. It demonstrates proficiency in React, Node.js, MongoDB, and AI APIs, making it a valuable addition to my internship portfolio.

GitHub Repository: <https://github.com/bhagwan388/Ai-Resume-Builder>

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