Software Requirements Specification (SRS) for SmartResumeAI

1. Introduction

1.1 Purpose

SmartResumeAI is an AI-powered resume builder platform that allows users to generate job-specific, LaTeX-styled resumes and cover letters using LinkedIn/GitHub login, auto data fetching, LLaMA 3 question-generation, ATS optimization, and LaTeX templates. This SRS outlines the functional and non-functional requirements, system design, and implementation roadmap.

1.2 Scope

- AI-assisted resume builder
- OAuth login (LinkedIn, Google, GitHub)
- Resume templates (LaTeX-based)
- Job description-based question generation (LLaMA 3)
- ATS (Applicant Tracking System) checker
- Tailored cover letter generator
- User profile with versioning
- Export as PDF

1.3 Audience

- Developers
- Product Managers
- AI/ML Engineers
- Investors

1.4 Definitions

- **LLaMA 3**: Language model used for question generation and resume/letter writing
- **ATS**: System used by recruiters to filter resumes based on keywords

2. Functional Requirements

2.1 User Registration and Login

- OAuth integration for Google, LinkedIn, and GitHub
- Store fetched data (education, experience, skills, etc.)

2.2 Resume Template Selection

- UI for choosing from LaTeX-based templates

- Real-time LaTeX preview editor

2.3 Resume Customization Flow

- Input job description
- LLaMA 3 analyzes and generates missing info questions
- User answers; data stored in profile
- Resume generated using combined data

2.4 ATS Optimization

- Extract keywords from job description
- Compare against resume
- Highlight missing or weak sections
- One-click improvements

2.5 Cover Letter Generation

- Based on resume + job description
- Support tone customization (formal, friendly, enthusiastic)

2.6 User Profile System

- Store all data fetched and entered
- Resume/cover letter history
- Custom question sets and answers

2.7 Resume Exporting

- Compile LaTeX to PDF
- Download/export/share resume links

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3. Non-Functional Requirements

- **Performance**: Resume generation < 10s
- **Security**: OAuth2 + HTTPS
- **Scalability**: Microservices-based backend, scalable AI inference API
- **Usability**: Responsive UI, intuitive LaTeX editor, onboarding tutorial

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4. System Architecture

- **Frontend**: Next.js + TailwindCSS
- **Backend**: Node.js / Python (FastAPI or Django)
- **AI API**: LLaMA 3 via Ollama or OpenRouter
- **Database**: PostgreSQL + MongoDB
- **Storage**: AWS S3 for PDFs
- **Resume Compiler**: LaTeX (pdflatex or tectonic)

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5. Roadmap

Phase 1 (Weeks 1–4)

- Setup OAuth login
- Fetch and store user data from LinkedIn/GitHub
- Build template selector UI + LaTeX rendering system

Phase 2 (Weeks 5–8)

- Integrate LLaMA 3 for question generation
- Design user profile and question answer storage
- Create job description input and ATS analysis tool

Phase 3 (Weeks 9–12)

- Resume generator and PDF exporter
- Cover letter generator
- Resume versioning and sharing

Phase 4 (Weeks 13–16)

- Final UI polish
- Subscription and freemium model setup
- Launch Beta

6. Monetization Plan

Freemium Model:

- Free tier: 2 resumes + 1 cover letter/month
- Premium: $9/month or $99/year

Premium Features:

- Unlimited resumes/cover letters
- Advanced ATS scoring
- Premium templates
- Job search assistant
- AI grammar/tone improvement

Marketing Strategy:

- Partner with LinkedIn influencers
- SEO-optimized landing pages ("AI Resume Builder", "ATS-friendly Resume")
- LinkedIn Ads targeting job seekers
- Startup directories (ProductHunt, Betalist)

- University partnerships for student discounts

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7. Future Features

- **Auto Job Application Bot**: Apply to jobs using saved resume/cover letter
- **Resume Audit Feedback**: Recruiter-like AI feedback
- **Chrome Extension**: Scrape job descriptions from job boards
- **Job Tracker**: Track applications, responses, status
- **Interview Simulator**: AI-generated interview questions with feedback

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8. Constraints

- Legal: Compliance with LinkedIn/GitHub TOS
- Ethical: Transparent AI use, no fake data generation

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9. Appendix

- Example prompt to LLaMA 3:
  "*Based on this job description and user's profile, what info is missing? Generate questions.*"
- Sample LaTeX template
- Open-source libraries list