
CAPSTONE PROJECT

AI Resume & Portfolio Builder

Presented By:
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OUTLINE

- **Problem Statement**
- **System Development Approach**
- **Algorithm & Deployment**
- **Result**
- **Conclusion**
- **Future Scope**
- **References**

Problem Statement

- **Core Problem:** Many students struggle to effectively present their skills, projects, and experiences in an attractive and professional format suitable for job or internship applications.
- **Challenge 1:** Generic, one-size-fits-all resume templates often fail to highlight a student's individual strengths and unique accomplishments.
- **Challenge 2:** Crafting compelling and tailored resumes, cover letters, and portfolio summaries requires significant time and strong writing skills, which can be a barrier for many.
- **The Need:** There is a clear need for a smart, automated solution that can generate personalized and professional application documents based on individual student data, ultimately enhancing their employment opportunities.

System Approach

- **Frontend: Streamlit**
 - Used to create a simple, interactive, and user-friendly web interface for data input and displaying results.
- **Backend: Python**
 - The core logic is written in Python to handle user data, process requests, and integrate with other services.
- **AI Model Engine: Cerebras API (Llama Maverick Model)**
 - Leverages the llama-4-maverick-17b-128e-instruct model to generate high-quality, human-like text for resumes, cover letters, and portfolio summaries.
- **PDF Generation: FPDF Library**
 - Enables the conversion of the AI-generated text content into universally shareable and printable PDF documents.
- **Environment Management: Python-dotenv**
 - Used for securely managing the API key and other environment variables for both local development and cloud deployment.

Algorithm & Deployment

- **User Data Collection:** The application starts by collecting the user's personal details, education, skills, experience, and project information through a clean Streamlit form.
- **Input Validation:** It performs a check to ensure that all required fields are filled before proceeding, preventing errors and unnecessary API calls.
- **Prompt Engineering:** Based on the user's selected document type (Resume, Cover Letter, or Portfolio), a specific, detailed prompt is constructed. This tailored prompt guides the AI to generate the most relevant content.
- **AI Content Generation:** The constructed prompt is sent to the Cerebras API. The Llama model processes the input and generates a professional, well-structured document.
- **Display and Download:** The generated content is displayed on the screen for the user to review. The user can then click a button to convert the text into a PDF, which is created using the FPDF library and made available for download.
- **Deployment:** The application is deployed on Streamlit Cloud, making it publicly accessible to users through a web browser without requiring any local installation.

Result

```
def construct_resume_prompt(user_data):
    """Construct a prompt for resume generation"""
    prompt = f"""Create a professional resume for the following candidate:

Name: {user_data['name']}
Email: {user_data['email']}
Phone: {user_data['phone']}

Career Objective:
{user_data.get('objective', 'Seeking a challenging position to utilize my skills and contribute to or

Education:
{user_data['education']}

Skills:
{user_data['skills']}

Work Experience:
{user_data['experience']}

Projects:
{user_data.get('projects', 'N/A')}

```

Code

About

AI-powered tool to generate professional resumes, cover letters, and portfolio summaries using AI Assistant.

How to use:

1. Fill in your details

2. Click a generate button

3. Download as PDF (optional)

AI Resume & Portfolio Builder

Create professional documents with AI assistance

Your Information

Full Name *

Shubham Gokul Aher

Email *

shubhamaher758@gmail.com

Contact Number *

+918999919524

Career Objective (optional)

Senior Cloud Architect

Homepage

Generated Portfolio Summary

Portfolio Summary: Shubham Gokul Aher

Technical Skills

• Programming Languages: Java, C++

• DevOps Tools: Docker, GitHub

• Cloud Platforms: AWS, Azure

Professional Experience

• IBM Intern: Contributed to Java Spring Boot projects, enhancing application development and deployment.

• AWS Engineer: Managed and maintained AWS infrastructure, ensuring high availability and scalability.

Key Projects

• CI/CD Manager: Designed and implemented an automated CI/CD resource allocator, streamlining the development and deployment process.

• SmartStock: Developed an Inventory Management System for small businesses, utilizing technical expertise to drive business efficiency.

Portfolio

Generated Cover Letter

Here is a professional cover letter for Shubham Gokul Aher:

Dear Hiring Manager,

I am excited to apply for a challenging role that aligns with my career aspirations as a Senior Cloud Architect. With a strong educational foundation in Computer Science and Engineering from VIIT Pune, expected to graduate in 2027, I have been driven to excel in the field of cloud computing. My academic background, coupled with my hands-on experience in industry-leading technologies, has equipped me with the skills and knowledge to make a meaningful impact in your organization.

As a detail-oriented and innovative individual with a passion for cloud architecture, I have gained valuable experience as an intern at IBM, where I supplemented and handled Java Spring Boot projects. Additionally, my experience as an AWS engineer has given me a deep understanding of maintaining and operating AWS Infrastructure. My technical expertise spans a range of skills, including Java, C++, DevOps, AWS, Azure, Docker, and GitHub. I am confident that my technical skills, combined with my experience and enthusiasm, make me an ideal candidate for a role that requires expertise in cloud architecture.

I am particularly drawn to this field because of the opportunity to design and implement scalable, secure, and efficient cloud solutions. I am excited about the prospect of working with a talented team to drive innovation and growth. My career objective is to leverage my skills and experience to become a Senior Cloud Architect, and I believe that this role would be a significant step towards achieving that goal.

Thank you for considering my application. I would welcome the opportunity to discuss my qualifications further and explain in greater detail why I am the ideal candidate for this role. Please feel free to contact me at +918999919524 or shubhamaher758@gmail.com.

Sincerely, Shubham Gokul Aher

Cover letter

Generated Resume

Shubham Gokul Aher Contact Information:

• Email: shubhamaher758@gmail.com

• Phone: +918999919524

Summary: Highly motivated and detail-oriented IT professional with experience in cloud computing, DevOps, and software development. Proficient in multiple programming languages and cloud platforms, with a strong passion for designing and implementing scalable and efficient cloud architectures. Seeking a challenging role as a Senior Cloud Architect to leverage my skills and experience in driving business growth and innovation.

Education:

• Bachelor of Technology in Computer Science and Engineering, VIIT Pune (2023-2027)

• Higher Secondary Certificate (12th), HAK Manmad (2020-2022)

• Secondary School Certificate (10th), KV Manmad (2018-2020)

Technical Skills:

• Programming Languages: Java, C++

• Cloud Platforms: AWS, Azure

• DevOps Tools: Docker, GitHub

• Other: DevOps, CI/CD

Resume

edunet
foundation

GITHUB AND DEPLOYMNET LINK

- **Github Link :** <https://github.com/shubhamaher8/AI-Resume-And-Portfolio-Builder>
- **Deployment link:** <https://ai-resume-and-portfolio-build.streamlit.app>

Conclusion

- The AI Resume & Portfolio Builder successfully addresses the challenge students face in creating professional application documents.
- By integrating a powerful generative AI with a simple web interface, the project provides an automated and effective solution for generating tailored resumes, cover letters, and portfolios.
- The system empowers students to better showcase their skills and experiences, directly contributing to improving their job and internship prospects with high-quality, personalized materials.

Future scope

- **Implement Rich Text Editor:** Allow users to manually edit and format the AI-generated content directly in the application before downloading the PDF.
- **Add Customizable Templates:** Introduce multiple professional templates (e.g., modern, classic, creative) that users can choose from to format their final documents.
- **Incorporate Keyword Optimization:** Add a feature to suggest relevant keywords for a specific job description to make resumes more ATS-friendly.
- **User Accounts and History:** Enable users to create accounts to save their information and access previously generated documents.

References

Title: AI-Based Resume Builder

Source: International Journal of Innovative Research in Technology (IJIRT)

Link: <https://ijirt.org/Article?manuscript=170083>

Relevance: This paper directly discusses the development of an AI-based resume builder, making it highly relevant to your project's core concept.

Title: Streamlit Documentation

Source: Streamlit.io

Link: <https://streamlit.io/>

Relevance: As a primary technology in your project's frontend, citing the official documentation is standard practice.

THANK YOU