KARUNA VASU

BACKEND/PLATFORM ENGINEER | PYTHON | AUTOMATION SYSTEMS | AWS | AI SYSTEMS

CONTACT

Mangalore, KA 575003 | +91 6350545182
Email | **LinkedIn** | **Portfolio** | **GitHub**

SKILLS

Languages: Python, SQL, JavaScript, TypeScript, C#, PERL, R

Backend & APIs: FastAPI, REST APIs, microservices, ASP.NET Core, Flask, Django, SQLAlchemy

Frontend: React, Next.js, Vite, Tailwind CSS

Automation: Selenium, RPA, workflow automation

AI/ML: OpenAI APIs, LLMs, prompt engineering, document AI, Amazon Bedrock (Claude 3.5 Sonnet)

Data Processing: Pandas, NumPy, rule engines, data validation

Cloud & DevOps: AWS (Connect, Bedrock, Lambda, EC2, DynamoDB, IAM), Docker, CI/CD, Azure Key Vault

Databases: PostgreSQL, Microsoft SQL Server, SQL, SQLite, vector DB (basic)

Platform & Tooling: APScheduler, Hangfire, Serilog / structured logging, PyODBC, SFTP automation, Git, Linux, Postman, Jenkins, Kubernetes, Azure DevOps, Power Automate

EDUCATION

January 2023
Master of Science: Bioinformatics
Manipal Academy of Higher Education, Manipal, India
GPA: 7.24

January 2021
Bachelor of Science: Bioinformatics
Sardar Patel University Gujarat, Anand, India
GPA: 7.00

PROFESSIONAL SUMMARY

Backend Engineer building high-scale automation and AI-driven systems, delivering ~95% faster processing and 40–80% reduction in manual workflows across healthcare RCM.

Experienced in distributed, fault-tolerant systems (FastAPI, AWS, multi-tenant architectures), with hands-on work in orchestration platforms, LLM-based document intelligence, and real-time IVR automation.

EXPERIENCE

December 2023 - Present
Python Developer, Integrity Healthcare Solutions Pvt Ltd, *Ahmedabad*

- Reduced claim turnaround by **~95%** by building **high-throughput Python automation pipelines integrated with Availity and large-scale RCM workflows**
- Automated **end-to-end RCM lifecycle (eligibility, authorization, claims, EOB/ERA)** using **Python, Selenium, and rule engines**, reducing manual effort by **40–80%**
- Built **FastAPI microservices and backend systems** powering **high-volume, low-latency automation workflows in production**
- Architected **BotVeta — a multi-tenant automation orchestration platform** with **queue-based execution, retry handling, scheduling, and centralized monitoring**
- Designed **API-driven orchestration layer (FastAPI + .NET)** integrating **Python and Node.js runtimes**, enabling distributed and fault-tolerant workflow execution
- Developed **AI-powered document intelligence system (AWS Bedrock)** for extracting structured data from unstructured healthcare PDFs using **LLM + rule-based validation pipelines**
- Engineered **real-time IVR automation platform (Amazon Connect + AWS)** enabling automated navigation, response capture, and dynamic call routing, reducing manual calling effort by **60–80%**
- Built **event-driven workflow systems (Slack APIs, webhooks)** and **LLM-based bots (Telegram/WhatsApp, transcription pipelines)** to extend automation capabilities across platforms

June 2023 - July 2023
Data Science Intern, Zephyr Technologies and Solutions Pvt Ltd, *Mangalore, India*

- Developed real-time chat application using Django, WebSockets, and PostgreSQL.

February 2023 - December 2023
Research Intern, Manipal Institute of Technology*, Manipal, India*

- Published IEEE research paper on ECG signal analysis; awarded Best Paper & Best Presenter (NMITCON 2023)
- DOI: https://doi.org/10.1109/NMITCON58196.2023.10276059