

Bijaya Krishna Das

Principal / Staff Software Engineer – Backend Systems | Python | AWS | GenAI | Scalable Architecture

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Professional Summary

Accomplished and versatile Principal Software Engineer with over **13 years** of experience in designing and scaling **robust backend systems, cloud-native platforms, and AI/LLM-powered applications**. Proven expertise across **healthcare, semiconductors, IoT, energy, and automotive** domains. Specialized in **Python ecosystems, cloud automation, GenAI integration, and high-throughput data pipelines**. Adept at leading engineering teams, architecting distributed systems, and deploying real-world AI at scale.

Core Competencies

-  **Backend & Distributed Systems:** Python, GoLang, Node.js, Ruby on Rails, Django, FastAPI, Flask, REST, GraphQL, gRPC, Microservices, Event-Driven Design, CQRS
-  **Cloud Platforms & Infrastructure-as-Code:** AWS (Lambda, Glue, EC2, RDS, S3, SNS), Azure, GCP, Pulumi, Terraform, CloudFormation, Serverless Architecture, GitOps, Secrets Management
-  **DevOps & SRE:** Kubernetes, Docker, GitHub Actions, Bamboo, CI/CD Pipelines, Monitoring (Prometheus/Grafana), Observability, High Availability Systems
-  **GenAI & Applied AI:** LangChain, OpenAI, Mistral, Azure OpenAI, LLM Fine-Tuning, Retrieval-Augmented Generation (RAG), Prompt Engineering, Speech Recognition, NLP, Chatbot Architecture
-  **Data Engineering:** PostgreSQL, MySQL, MongoDB, DuckDB, Redis, Airflow, Spark, Kafka, AWS Glue, RDF, SPARQL, Knowledge Graphs, Batch/Stream Processing
-  **Soft Skills:** Leadership & Mentorship, Agile Delivery, Stakeholder Communication, Cross-functional Collaboration, Tech Hiring, Product Thinking

Professional Experience

HARMAN International

Principal Software Engineer

Nov 2023 – Present | Bangalore, India

- **Architected** AI/GenAI-based conversational systems for smart audio and automotive products.
- **Built** production-grade chatbots with OpenAI, Mistral, LangChain using fine-tuned LLMs and custom datasets.
- **Delivered** OTA update systems for firmware delivery using AWS, Pulumi, Docker, Kubernetes.
- **Developed** Bixby-enabled speaker apps and APIs for media, weather, news, and controls.
- **Led** CI/CD, infrastructure, and SRE ownership for multiple GenAI & IoT product lines.

Siemens Energy (via Siemens Ind.)

Solutions Architect

Jul 2022 – Jun 2024

- **Designed** a Knowledge Graph-based data lake using AWS, RDF, and SPARQL for energy systems.
- **Led** development of scalable backend (Python) and frontend (Angular) infrastructure.
- **Streamlined** ingestion pipelines for diverse IoT and historical data sources.

Applied Materials

Technical Lead

Aug 2019 – May 2022

- **Delivered** serverless middleware for processing internal and external data sources using Python & AWS Lambda.
- **Re-architected** legacy systems into microservices with CI/CD and cloud-native deployments.
- **Integrated** real-time analytics across enterprise-wide operational systems.

Uber (via Wipro Payroll)

Engineering Manager

Dec 2018 – Jul 2019

- **Managed** end-to-end delivery of Uber's IAM system, Uchat (Slack clone), and Perks platform.
- **Led** a 10+ member team across frontend/backend/cloud domains using Python, Golang, React, and AWS.
- **Scaled** internal apps handling onboarding, employee benefits, and real-time messaging.

Decision Resources Group

Senior Software Engineer

June 2016 – Nov 2018

- Built big data solutions to process **60B+ records** for healthcare analytics.
- Developed **Formulary Bot** – an AI-powered voice/text assistant used by pharma analysts.
- Delivered cohort-based reporting engines for clinical and commercial analysis.

Sourcebits Technologies

Senior Software Engineer

2014 – 2016

- Developed full-stack web applications for healthcare, analytics, and enterprise productivity.
- Migrated legacy apps to modern **backend APIs** and implemented internal DevOps pipelines.
- Built **200+ pharma-facing dashboards** and CMS platforms with custom reporting engines.

Highlighted Projects

HARMAN International

1. Trusted Manufacturing System (May 2024 – Present)
 - Built secure backend for device validation and lifecycle tracking.
 - Stack: **Python, AWS, Kubernetes, Pulumi, CI/CD, SRE**
2. OTA Update System (Mar 2024 – Present)
 - Delivered firmware update orchestration across distributed Harman devices.
 - Stack: **AWS, GitHub Actions, Pulumi, Docker, Kubernetes**

3. GenAI Chatbot Platform (Feb 2024 – Present)
 - Built LLM-powered, RAG-enabled chatbots with LangChain, fine-tuned for Harman datasets.
 - Stack: **Azure OpenAI, Mistral, DuckDB, Python**
4. Bixby Capsule Apps (Nov 2023 – May 2024)
 - Developed voice/visual Bixby apps (Clock, Weather, Spotify) for Harman smart devices.
 - Stack: **JavaScript, JSON, Bixby SDK**

Other Major Projects

- COSI Data Lake – Architected a semantic ETL framework using RDF and Knowledge Graphs on AWS.
- Medley & Pathway 2.0 – Serverless API platforms for internal tools (Python, PG, AWS).
- Uber IAM / Uchat / Perks – Led team delivering critical employee systems at scale.
- Cohort Generation Tool – Processed **100TB+** data for healthcare cohort analytics.
- Relay ETL Pipeline – Custom Python ETL engine scraping public healthcare datasets.
- Formulary Bot – AI assistant using NLTK, Scikit-learn; awarded best internal hackathon product.
- Publisher 2.0 – Delivered **200+** web apps for pharma clients with advanced analytics.

Education

- 🎓 M.Tech, Computer Science – BITS Pilani
- 🎓 B.Tech, Computer Science & Engineering – BPUT, Odisha

Awards & Recognitions

- 🏆 1st Prize, Internal Hackathon @ DRG – For building Formulary Bot
- 💬 Multiple Client Awards & Spot Bonuses for Product Delivery Excellence

Languages

- English: Fluent | Hindi: Fluent | Oriya: Fluent | German: Limited Working Proficiency

Open To

- Global Relocation & Visa Sponsorship
- Principal / Staff Backend Engineer, AI Engineer, or Platform Architect Roles
- Remote-first or Hybrid Models in High-impact, Scalable Tech Team