

Riya Gupta

Backend Software Engineer | AI Platforms & Distributed Systems

✉ riyag2803@gmail.com | 📞 +91-6200811990 | 🌐 github.com/riyag283 | 🔗 linkedin.com/in/griya

Professional Summary

Backend Software Engineer with 5 years of experience building backend services, distributed systems, and AI platform integrations. Proficient in Python, with experience developing backend systems using Go. Focused on scalable, reliable systems and AI agent interoperability.

Education

Indian Institute of Information Technology, Dharwad
B.Tech. in Computer Science and Engineering

2017 – 2021
CGPA: 8.56/10

Skills

Languages: Python, Go, SQL

Backend Engineering: Distributed Systems, Microservices Architecture, API Design, REST APIs, Scalability, Performance Optimization, FastAPI, Authentication & Authorization

AI Platform Engineering: Agent Orchestration, A2A Protocol, MCP, LLM Integration, Model Routing, Tool Calling, Security & Observability

Cloud & Infrastructure: IBM Cloud, AWS, Kubernetes, Docker, Podman, Git, Jenkins, CI/CD

Databases & Messaging: PostgreSQL, Redis, Kafka, etcd

Testing & Observability: Instana, TDD, Tavern, pytest

Work Experience

IBM India Software Labs, Bengaluru
Backend Developer

Oct 2024 – Present

Watsonx Orchestrate (WxO) — Unified Gateway

- Designed and implemented provider integrations for AWS Bedrock, Azure AI Foundry, and Gemini Enterprise Agent Platform, extending a unified gateway for **cross-platform AI asset discovery**.
- Extended provider-specific discovery workflows to support **A2A agents, models, chat-completion resources, and MCP servers**, enabling a unified interface for heterogeneous AI ecosystems.
- Developed reusable components for a **YAML-driven provider onboarding framework** integrated with the shared Connections service, enabling Azure AI Foundry onboarding through configuration alone, reducing provider-specific development and QA effort.

Watson Machine Learning (WML) — Runtime & Infrastructure

- Reduced execution time for a runtime test case from **5 minutes to under 1 minute** by developing Slim DT-Runner to run focused runtime and service-level tests against local containers without the full WML deployment stack.
- Enabled asynchronous execution of user-defined workloads during the Flask-to-FastAPI migration by implementing async support for AI-Service and AI-Function score functions.
- Supported Cloud Pak for Data upgrade workflows for production customers by implementing changes to the **etcd-to-Redis migration utility**.
- Contributed to runtime and deployment workflows spanning multiple Python versions, GenAI-specific runtimes, RScript, PyScript, and AutoML, including troubleshooting customer-reported runtime issues.

Publicis Sapient, Bengaluru

May 2021 – Sep 2024

Trainee Engineer → Associate SDE 1 → Associate SDE 2

Lululemon — Kafka Pipeline and E-commerce Integration

- Owned end-to-end development of a **Kafka-based data pipeline** transmitting large data loads to Fusion within minutes.
- Implemented replication of ATG's n-index for Fusion, supporting downstream data synchronization for the client's e-commerce platform.
- Improved pipeline logging and diagnostic visibility, making processing behaviour and metrics easier to trace.

Falabella — Point of Sale (POS)

- Implemented the **JWT authentication layer** for a backend service, taking ownership of the workstream and earning stakeholder appreciation for the contribution.
- Contributed to backend features across orchestration, order, and cart services for a cloud-native retail platform.

- Applied TDD, SOLID principles, object-oriented design, and pair programming to deliver maintainable backend functionality.

Awards & Research

- **Developthon 2020 Winner — Deshpande Startups:** Built a hierarchy-management prototype.
- **Celebrating Extraordinary People, Publicis Sapient (2024):** Recognized for making a difference.
- **Research:** Presented “Predicting Mental Health of Scholars using Contextual Word Embeddings” at INDIACom 2021 (IEEE Conference ID: 51348), earning an A grade.
- **Finalist, MetaMorph’s Chhalaang 2.0:** India’s largest women-only hackathon.
- Won first prize for a Java project called “Acrophonology and You” — a fun game using the String and Random libraries.