

Modita Rana

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EDUCATION

M. Tech, Cloud Computing

Indian Institute of Technology, Patna

Aug, 2024 – Present

B. Tech, Information Technology

J.C. Bose University of Science and Technology

Aug, 2017 – June, 2021

EXPERIENCE

Software Engineer II

Akamai Technologies, Bengaluru

Oct, 2024 – Present

- Architected and built the second version of the **Metric Read API**, adding **multi-metric query** capabilities, dynamic filters, and performance improvements while ensuring full backward compatibility.
- Co-developed the custom **OpenTelemetry receiver** (CloudPulse) as part of a two-member core team, contributing to key components like resource ID fetchers, JWT token generation, and region-aware batching logic. **Designed** and **executed** end-to-end **automation** tests, gaining deep functional insights into the receiver's data flow, **caching**, and ingestion pipeline.
- Proactively monitored **Grafana dashboards** to identify system bottlenecks, leading performance tuning efforts and enhancing **observability** across distributed workloads.
- Collaborated cross-functionally to integrate metric processing improvements into the analytics pipeline, improving modularity, validation, and operational resilience.
- Optimized **containerized workloads** on Kubernetes and Armada clusters, improving infrastructure efficiency through profiling and resource tuning.
- Strengthened system robustness with enhanced **error handling**, structured **validation logic**, and comprehensive **automated test coverage** for production-grade reliability.

Software development Engineer

Saras Analytics, Hyderabad

Feb, 2023 – June, 2024

- Contributed to the development and maintenance of a software system with multiple **microservices using Kotlin**, and **PostgreSQL**, resulting in a 20% increase in user satisfaction. Provided prompt and efficient solutions to customer-reported bugs, helping to troubleshoot and resolve them.
- Added new features for resource monitoring, such as **Prometheus Micrometer**, using **Python** for enhanced system tracking and analysis.
- Developed **Python** scripts for **automation**, reducing manual intervention in repetitive tasks and improving overall operational efficiency.
- Created a **Python** script to efficiently run the local setup for all **microservices**, **Kafka** and **Zookeeper**, streamlining the development environment and reducing setup time for the team.

Backend Engineer

Innowatts Energy, Gurugram

May, 2019 – July, 2019

- Designed and implemented **AI-driven electricity load** forecasting pipelines using **AWS S3**, **AWS EMR**, and **SQL** for data processing, transformations, and validations.
- Leveraged **Kafka** for **real-time data streaming** and seamless data flow across **distributed systems**.
- Managed optimizing **AWS** infrastructure for cost efficiency and performance.

PROJECTS

OpenTelemetry Receiver Development | Go, OpenTelemetry, Bash, Docker

April, 2025 – Present

To contribute to an in-house OpenTelemetry receiver within the collector architecture for scalable metric ingestion, including features like a dynamic resource ID fetcher and JWT-based authentication.

Multi-Metric Query Upgrade for Internal Metrics API | Prom QL, API Development, Flask

Nov, 2024 – Feb, 2025

To upgrade the existing internal Metrics Read API by introducing multi-metric query capability, advanced split-by filters based on entity and node types, and enhanced performance handling—while ensuring backward compatibility, better error management, and improved observability.

TECHNICAL SKILLS

Languages: Python, Java, Go, Bash, SQL

Frameworks: Flask, Django, Spring Boot, Gin

Tools & Platforms: Kubernetes, Docker, GitHub, GitLab, CI/CD, Prometheus, Grafana, Postman

Cloud & Infra: GCP, Kubernetes, Docker

Databases: MySQL, PostgreSQL, MongoDB