Tanshai Saxena

Senior Backend Engineer
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Summary

Senior Backend Engineer with 5+ years building distributed workflow orchestration systems and event-driven microservices in Golang and Python. Experienced architecting Kafka-based async pipelines, mTLS-secured service communication, and Kubernetes-native observability at scale. Expanding into AI-Integrated Backends, RAG pipelines, Neo4j Knowledge Graphs and LLM APIs - bridging traditional backend engineering with modern AI infrastructure. Multi-Certified across Red Hat, IBM Cloud and Anthropic's Claude Platform.

Skills

Languages & APIs:
Golang, Python, REST APIs, gRPC, Protocol Buffers,Golang Concurrency

Backend & Messaging:
Microservices, Distributed Systems, Event-Driven Architecture, Service Orchestration, Kafka

Databases:
MariaDB, SQL, Neo4j Knowledge Graph

Infra & Observability:
Docker, Kubernetes, Prometheus, Grafana, Linux, HAProxy, WebAssembly (WASM), OCI Registries

Cloud & Automation:
IBM Cloud, Ansible, GitLab / GitHub, mTLS / Secure Service Communication

Testing & Reliability:
Unit & Integration Testing (Go), CI/CD Pipelines, Performance Profiling (pprof)

AI & LLM:
LLM APIs, Claude API, Retrieval-Augmented Generation (RAG), Prompt Engineering

Experience

Infosys Limited April 2025 - Current
Senior Associate Consultant

- Designed and developed a Router Service responsible for orchestrating multi-phase product-dimensioning workflows, handling dependency resolution, task decomposition, and distributed execution.
- Implemented Kafka-based asynchronous communication between Router and Execution Engines using Go producers/consumers, enabling reliable distributed workflow execution with retries and timeout control.
- Developed Executor Service to manage engine execution lifecycle (timeouts, retries, error propagation) and integrate WASM engine modules stored in OCI registries.
- Designed and optimized MariaDB persistence for workflow metadata and orchestration state; improved performance via efficient SQL + Go data-access patterns.
- Implemented mutual TLS (mTLS) for secure inter-service communication across Kafka and database layers, ensuring encrypted data transfer and certificate-based authentication.
- Improved system reliability and observability by implementing Prometheus metrics, Grafana dashboards, and Kubernetes health probes, enabling faster debugging and proactive monitoring of backend services.
- Improved engineering quality by adding vulnerability checks, increasing test coverage, enforcing coverage gates in CI, and using pprof profiling to optimize bottlenecks.

Tata Consultancy Services [IBM Cloud Project] Oct 2022 - Mar 2025
Backend Software Developer

- Designed and improved backend automation and monitoring services using Golang, increasing reliability, scalability, and maintainability of internal cloud-platform components.
- Built an alert automation system by developing backend tools that generated event-driven alerts from logs and metrics, reducing manual workload and improving issue detection speed.
- Implemented custom Prometheus metrics, exporter logic, and alert rules, enabling deeper visibility into backend pipelines and improving proactive detection of failures.
- Automated Service-ID provisioning and onboarding flows through backend scripts and APIs, significantly reducing provisioning delays and standardizing production readiness.
- Developed and maintained backend logic for creating alerts and dashboards used by SRE teams for issue debugging and early anomaly detection.
- Led backend migration tasks from LogDNA to IBM Cloud Logs (ICL), ensuring data consistency, smooth transition, and backward compatibility for internal tools.
- Collaborated closely with SRE teams to troubleshoot platform issues, enhancing backend components based on production behavior and writing detailed runbooks for recurring scenarios.
- Built health-check logic and dashboards in Grafana/Prometheus to monitor service uptime, backend performance, and key reliability indicators.
- Developed a strong understanding of IBM Cloud internal services, networking behavior, and platform architecture, applying these insights to improve backend workflows and automation systems.

Ericsson Global India Pvt. Ltd. Dec 2020 - Oct 2022
Domain Support Specialist

- Refined, optimized, and executed Python-based validation scripts to test 3G/4G Network Elements, ensuring stable connectivity and functional compliance.
- Developed automation scripts to verify and maintain seamless network connectivity between nodes, reducing manual troubleshooting efforts.
- Contributed to automation initiatives and POC activities, applying scripting, analysis, and basic Kubernetes operations to streamline processes.
- Played a key role in reducing ticket volume by 27%, significantly improving operational efficiency and contributing to KPI improvement of Nokia 3G operations to 99.30%.

LinuxWorld Informatics Pvt Ltd June 2019 - July 2019
Intern

- Became proficient and attained certifications in Red Hat Linux (RHEL7, RHEL8) Operating System, and Ansible.
- Gained experience for VM creation, setup and management.
- Automated HAProxy and Hadoop cluster using Ansible.
- Familiarised with Docker for Containerization and Kubernetes for orchestration.
- Worked on IoT devices : Completed the Product (Pyke) which allows you to pay at Toll Plaza automatically. Making use of devices like RFID module , RaspberryPi.

Siemens Industry Software Pvt. Ltd. June 2018 - July 2018
Intern

- Acquired foundational knowledge of AWS, including setting up cloud infrastructure and deploying applications, and gained an understanding of the importance and methodologies of Version Control Systems such as Git.

Education

Institute of Engineering and Technology (IET), Lucknow Bachelor of Technology (B. Tech) • 7.55 GPA
2016-2020

Delhi Public School,Kanpur Senior Secondary • 76 %
2015-2016

Projects

Smart Cart

- Implemented a sophisticated integrated system to streamline checkout processes, significantly reducing wait times at billing counters and elevating customer satisfaction. Introduced advanced shopping carts equipped with automatic bill calculation features, effortlessly tallying scanned items as they are added to the cart.
- Made use of IoT devices such as RFID for tag scanning, Arduino UNO for configuration of modules , ESP32 cam for barcode scanning.

AI-Powered To-Do Assistant | Golang, RAG, LLMs

- Designed and developed an **AI-driven to-do assistant** that provides intelligent task summaries and contextual responses using **Retrieval-Augmented Generation (RAG)**.
- Implemented backend services in **Golang**, focusing on clean architecture, modular design, and efficient API handling.
- Built a **RAG pipeline** involving task ingestion, embedding generation, vector similarity search, and LLM-based response generation.
- Integrated **LLM APIs** to answer user queries strictly based on retrieved task context, reducing hallucinations.
- Implemented **semantic search over tasks** using embeddings to improve task relevance and retrieval accuracy.

Certifications

Claude Certified Architect - Foundations (CCAF)
843/1000

Claude Certified Developer - Foundations
941/1000

Claude Certified Associate - Foundations
950/1000

IBM Certified Advocate-Cloud v2
98 %

Red Hat Certified Engineer (RHCE)
257/300

Certified Red Hat Specialist in Ansible Automation (ex407)
218/300

Red Hat Certified System Administrator (RHCSA)
300/300

Infosys Certified Professional - Generative AI for All
76%

Achievements

Received Infosys RISE Insta Award (Mar 2026) for resolving critical security vulnerabilities and improving service reliability across backend components.

Recognised for being the Performer of the month 4 times in a span of 1.5 years in Ericsson

Got selected and showcased my startup idea at the First Technological Based Startup Event JAZBAA 1.0 at Jaipur Under IIEC community.

Co-ordinator of Indian Innovation and Entrepreneurship Community (IIEC), Jaipur

Achieved the Title of the first few in the world to clear RHCSA on RHEL Version 8