Anurag Tiwari

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Experience

Exponent Energy June 2023 – Present

Software Engineer *Bengaluru, IN*

- Designed the energy domain around a persistent per-vehicle account that hides battery mapping from the business. Billing, dues, subscriptions and fleet controls key on it, while batteries attach through time-bounded sessions, so swaps and re-onboarding keep full history without migrations (**3.5K vehicles**, 3-wheelers to HV buses).
- Built the Rust (Tokio) control service that runs on **200+ chargers** (Android/ARM). It handles CAN I/O and the charging state machines, runs CMS firmware OTA and **charger-distributed BMS firmware updates** over CAN, auto-recovers, gives remote shell access through tunshell, and streams **3B+ CAN frames a day** to the cloud.
- Built the billing engine for subscriptions, invoices, payments and dues enforcement, processing **1M+ sessions** (4.8 GWh) a year, and its ERPNext sync, a transactional outbox for invoices, payments and credit notes.
- Built on-charger session construction and the device APIs behind it, including offline-tolerant, idempotent batch sync, later split into their own service for scale. Cut p99 billing latency from 8 hours (Databricks/Spark) to **74 s**.
- Built a **shared observability library** for structured logging, tracing and secret redaction, and set up Terraform-managed Datadog monitors.
- Built a **self-serve analytics platform** on Databricks, dbt and Superset. Its 300 models turn telemetry from 7 source systems into charging, battery-health and energy datasets for **100+ internal users**.

Amazon July 2022 – March 2023

Software Development Engineer *Bengaluru, IN*

- Built a driver-onboarding platform that orchestrates **35+ microservices** for ID verification, background checks, training and regional compliance. It reduced onboarding time by **30%** and cut verification costs by **25%**.
- Maintained **99.99% availability** across 13 microservices during 670+ on-call hours serving 6.2M registered customers, and reduced ticket volume by **20%** through proactive monitoring improvements.
- Owned peak readiness for 2 critical services facing **1M+ requests per minute**, including alarm audits, load tests, TPS calculation and (de)scaling, with **zero downtime** during Prime Day traffic spikes.

Software Development Engineer Intern *Jan 2022 – June 2022*

- Automated weekly fuel-incentive payouts across **11 countries**, paid at a fixed rate on every package delivered, by building a distributed job scheduler and payment processor that eliminated manual reconciliation.

Tokopedia May 2021 – Aug. 2021

Software Engineer Intern *Noida, IN*

- Built a data aggregation service across **5 microservices** over gRPC and REST for product video generation.

Projects

Apex: Government-Data Query Agent | *Python, FastAPI, React, PostgreSQL/pgvector, MCP* 2026

- Built a government-data platform with **8M+ state-budget records** across all 36 states and UTs, linked with procurement, gazettes, and election data through canonical geographic identifiers; served by an **NL→SQL + RAG agent** and an OAuth-secured **MCP server** for Claude and ChatGPT.
- Added an **AST-based SQL guard** and deterministic corpus-coverage and answer-support checks to distinguish missing data from valid findings, with explicit evidence states, source citations, and a **nightly LLM judge** to flag unsupported answers and incorrect refusals.

Skills

Languages / Frameworks: Java (Spring), Python (FastAPI), Rust (Tokio), TypeScript (React), C++
Distributed Systems: Kafka / Event Hubs, gRPC / REST, idempotency, transactional outbox, event-driven design
Cloud / Observability: AWS, Azure, Kubernetes, Docker, Terraform, Datadog, Grafana, OpenTelemetry
Data / AI: PostgreSQL, pgvector, Databricks (Spark), Delta Lake, dbt, NL→SQL, RAG, MCP, Claude Code

Education

Indian Institute of Information Technology and Management (IIITM) Gwalior, IN

B.Tech in Computer Science and Engineering | 8.1/10 CGPA *July 2018 – May 2022*

Achievements

- **Global rank 267** and **India Rank 17** in Google Hash Code 2022.
- Awarded "Make It Happen, Make It Better" - Tokopedia 3 DNA Award