Gaurav Suryavanshi

Software Development Engineer in Test
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PROFESSIONAL SUMMARY

I am an SDET who owns the API automation framework for a health-insurance claims platform, and a backend engineer who writes the kind of service that framework tests. I work at the framework layer — service abstractions, test data, reporting and parallel execution — and validate down to the database. Two backend engineering internships in Node.js, Express and NestJS. On my own I have implemented Raft consensus, an RGA text CRDT and a SQL query engine with a B-tree storage layer, all test-covered and public.

PROFESSIONAL EXPERIENCE

Software Development Engineer in Test *2024 – Present*
Vidal Health TPA *Pune, India*

- Own the Java 17, TestNG and Rest-Assured framework covering health-insurance claims APIs, including framework and service-layer design, test data handling and reporting.
- Built a partner-integration regression suite of 190+ test cases validating multi-party claim workflows end to end.
- Added response schema assertions and query-level checks against Oracle, so a failure identifies whether the contract or the data broke.
- Tuned TestNG for parallel execution, cutting regression runtime and stabilising CI builds across environments.
- Validated database migrations, blue-green deployments and real-time claim status flows delivered over Server-Sent Events.

Backend Automation Test Intern *2024*
Bajaj Finserv Health *Pune, India*

- Built a microservice that parsed HTTPS and clickstream traffic logs from the observability stack, derived the underlying API calls and replayed them as an automated regression suite — removing roughly 80% of the manual effort previously needed to author those workflow tests.
- Migrated the service from Node.js to NestJS for improved throughput and a modular architecture.

Backend Developer Intern *2024*
Esenceweb IT Solutions *Pune, India*

- Built REST services in Node.js and Express backed by MongoDB, with JWT authentication and middleware.
- Implemented real-time messaging over Socket.io and integrated a Dialogflow conversational agent.

TECHNICAL SKILLS

Languages: Java 17, JavaScript, TypeScript, Python, SQL / PLSQL, C++

Automation Frameworks: Rest-Assured, TestNG, JUnit, Selenium, Postman, Bruno

API & Backend Testing: REST APIs, schema validation, contract testing, negative and boundary cases, Server-Sent Events

Design Patterns & Practices: Page Object Model, service abstractions, data-driven suites, parallel execution, test data management

Backend: Node.js, Express, NestJS, Spring Boot, JWT auth, middleware, microservices, WebSockets (Socket.io)

Databases: Oracle SQL / PLSQL, MongoDB, SQLite, schema design, query optimisation, migrations

Systems: Raft consensus, CRDTs, B-tree indexing, query planning, concurrency, deterministic simulation testing

DevOps & Tools: Git, GitHub Actions, build gating, Docker, Maven, ELK Stack

PROJECTS

Raft consensus (JavaScript) — leader election, log replication and commit rules as a deterministic, seeded simulation. Property tests run thousands of randomised executions with injected crashes and partitions, asserting all four safety invariants after every step.

QueryLite — SQL database engine (JavaScript) — a working relational engine in ~1,500 lines: SQL parser, query execution engine, and B-tree storage and indexing.

RGA text CRDT (JavaScript) — Lamport-clock identifiers, tombstones, idempotent operation application and a causal buffer, so replicas edit offline and converge without a server.

Portfolio with grounded retrieval API (Next.js, Cloudflare Workers) — parsing, chunking, grounding and persistence behind a question endpoint, with 40 tests covering retrieval thresholds and refusal; deploy and a live post-deploy assertion automated in GitHub Actions.

e-Yantra Robotics Competition, IIT Bombay — selected participant, staged task rounds in Python.

Teaching engineering mathematics (SPPU B.Tech) — calculus, linear algebra and eigenvalues, probability and statistics, discrete mathematics and logic, graph theory and combinatorics, numerical methods, complex variables.

EDUCATION

Bachelor of Engineering | Computer Science *2020 – 2024*
PCCOER, Pune · CGPA 8.96 / 10 *Pune, India*

Honours project: Wildlife Conservation Analysis using Machine Learning (copyright-registered). Certifications: Generative AI (Udemy), Machine Learning (Coursera), Java (Udemy).