

# K. S. SUSHANTH

## Software Development Engineer – Backend Intern

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### PROFESSIONAL SUMMARY

Backend Engineer Intern specializing in **Java and Spring Boot**, with hands-on experience building **trading systems and financial backends**. Applies **Data Structures, Algorithms, and concurrency control** to design **correctness-critical, low-latency REST APIs**. Proven ability to build **event-driven systems** with clear failure handling and transactional guarantees.

### TECHNICAL SKILLS

**Language:** Java, Python, GoLang, SQL, JavaScript

**Backend Frameworks:** Spring, Spring Boot, Spring WebFlux, JPA, Hibernate, Django, FastAPI

**APIs & Backend Concepts:** RESTful Services, Authentication, Idempotency, Error Handling

**Databases:** PostgreSQL, MySQL, MongoDB, Redis

**Messaging:** Apache Kafka, RabbitMQ

**Core CS:** Data Structures, Algorithms, OOPs, OS, Networking, Cloud Computing, Distributed Computing, Concurrency, Transactions, RESTful API Design, Microservices, System Design.

**Cloud & Infra :** AWS, GCP, Docker, Kubernetes, Linux, GitHub Actions, Git.

**Testing:** Selenium, Pytest, Postman, JUnit

### EXPERIENCE

#### Data Analyst Intern

Jun 2025 – Jul 2025

*Elevate Labs (Remote)*

- Engineered a **Python-based data validation and processing pipeline** used in recurring internal reporting workflows.
- Reduced manual operational effort by **~40%** by automating ingestion, validation, and transformation steps.
- Refactored validation logic to improve **data correctness, failure detection, and recovery**.
- Worked in a **Git-based engineering workflow**, incorporating feedback through pull requests and code reviews.

### PROJECTS

#### TradeFlow – Low-Latency Stock Order Matching Engine | Java, Spring Boot, Kafka, PostgreSQL

- Designed and implemented a **trading order matching engine** processing **1,000+ orders/min** with deterministic execution semantics.
- Implemented a **Limit Order Book** using TreeMap and HashMap, achieving  **$O(\log n)$**  matching complexity under sustained load.
- Achieved **p95 order processing latency under 25ms** in local benchmarks by optimizing in-memory matching and batched database writes.
- Built an **event-driven pipeline** using Apache Kafka to decouple order ingestion and execution, ensuring **no message loss** during traffic spikes.
- Delivered **near real-time market price updates** via WebSockets, simulating professional trading workflows.

#### LedgerLock – Distributed Double-Entry Financial Ledger System | Java, Spring Boot, MySQL

- Developed a **double-entry ledger backend** enforcing strict **ACID guarantees** for concurrent financial transactions.
- Applied **pessimistic locking** and transactional boundaries to eliminate race conditions and balance inconsistencies.
- Designed **idempotent REST APIs** to safely handle retries, partial failures, and network timeouts.
- Achieved **95% unit and integration test coverage**, reducing regressions in transactional logic.

#### InvestSight – Real-Time Market Analytics Backend | Spring WebFlux, MongoDB, OAuth2

- Built a **reactive backend service** aggregating real-time market data and financial news from multiple external APIs.
- Handled **thousands of concurrent client connections** using Spring WebFlux and reactive streams.
- Modeled unstructured analytics data in **MongoDB**, enabling flexible schema evolution.
- Secured backend APIs using **OAuth2/JWT** with Spring Security for authenticated access.

### EDUCATION

#### Bachelor of Technology in Information Technology

*Sri Krishna College of Engineering and Technology, Coimbatore*

Sep 2023 – May 2027 (Expected)

CGPA: 8.11 / 10.0

### CERTIFICATIONS & ACHIEVEMENTS

**Databricks Lakehouse Fundamentals Certification , GCP fundamentals, AWS Cloud Practitioner / Associate** – Infosys Springboard

**Career essentials in Data Analysis** - Microsoft , **Multi AI Agent Systems** - Deeplearning.io

Solved **300+ Data Structures and Algorithms** problems

Open-source contributor to backend-focused projects such as **TaiPy**