

Shubham Kumar

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PROFESSIONAL SUMMARY

SDE 3 at GreyOrange and BITS Pilani alum with 4 years of experience building **Java backend systems, distributed workflows, RESTful services, optimization platforms, and AI/ML-integrated production systems**. Strong background in **Spring Boot, event-driven architecture, debugging complex systems, CI/CD, and scalable application design**. Backend-heavy full-stack engineer with practical exposure to **React/TypeScript** for dashboards, workflows, and API-driven interfaces. Experienced in mentoring engineers and collaborating across product, AI, QA, and deployment teams to deliver customer-centered software.

TECHNICAL SKILLS

Languages & Backend: Java 8–21, Spring Boot, REST APIs, Microservices, Multithreading, Concurrency, Python

Frontend: React, TypeScript, JavaScript, API Integration, Forms, Dashboards

Architecture: Distributed Systems, Event-Driven Design, System Design, Domain Modeling, Scalable Application Frameworks

Optimization & AI/ML: OptaPlanner, Timefold, Constraint Modeling, Heuristic Optimization, Predictive Modeling, ML Service Integration

Infrastructure & DevOps: Kubernetes, Docker, GitHub Actions, Jenkins, CI/CD Pipelines, Linux

Data & Observability: Kafka, RabbitMQ, PostgreSQL, Redis, InfluxDB, Prometheus, Grafana, Loki

Engineering Practices: Debugging, Code Reviews, Technical Mentorship, Cross-functional Collaboration, Production Support

PROFESSIONAL EXPERIENCE

GreyOrange Pvt Ltd

July 2022 – Present

SDE 3 | Senior Member of Technical Staff

Gurugram, India

- **Distributed Backend Systems:** Built and owned Java-based backend components for large-scale warehouse robotics orchestration, coordinating bots, totes, workstations, and fulfillment workflows across production deployments.
- **Scheduling Platform Ownership:** Owned the entire product MVTs, a multi-fleet task scheduling system responsible for assigning work across heterogeneous robot fleets while handling queue limits, bot availability, task priority, and operational constraints.
- **Optimization & AI Integration:** Developed and tuned task-scheduling algorithms using OptaPlanner/Timefold, integrating optimization logic into production-grade backend workflows with metrics, configuration controls, and debugging support.
- **RESTful Services & ML Workflows:** Built Spring Boot services for transit-time prediction with retraining and inference APIs, RabbitMQ-based asynchronous workflows, MinIO-backed model storage, Kubernetes deployment, and InfluxDB metrics.
- **Scalability & Performance:** Optimized solver configurations, multithreaded execution paths, and backend processing flows to improve throughput, latency, and runtime stability in high-volume warehouse scenarios.
- **Observability & Debugging:** Improved production debugging through structured logs, metrics, dashboards, alerts, reproducible problem statements, and invariant checks for complex scheduling and runtime anomalies.
- **CI/CD & Developer Productivity:** Migrated 20 repositories from Jenkins to GitHub Actions, creating reusable build, test, artifact, and notification workflows that improved build speed and developer experience.
- **Cross-functional Leadership:** Mentored 2 SDE-1 engineers, reviewed designs and code, and collaborated with product architects, QA, deployment, contract discussions, and engineering teams to deliver customer-facing production features.

PERSONAL VENTURES AND PAST INTERNSHIPS

BITS Eats & OrderUp | Technical Lead & Architect

2019 – 2020

- **Full-stack Logistics Platform:** Designed and launched a campus delivery platform with inventory, ordering, and dispatch workflows for the BITS Pilani student community.

Genpact | AI Engineering Internship

2022

- Worked on AI-ML systems for customer call centers, learned data warehousing for ML development-operations pipeline, contributed in ML models for speech emotion detection of customer.

EDUCATION

BITS Pilani

2017 – 2022

M.Sc. Mathematics & B.E. Electrical and Electronics, Dual Degree

Goa, India

HONORS & AWARDS

Excellence product ownership, GreyOrange (2026) — For demonstrating outstanding ownership, collaboration and commitment towards Walmart's Proof of Technology

Spirit of Learning Award, GreyOrange (2024) — For driving technical innovation and learning initiatives.

Extra Mile Award, GreyOrange (2023) — For excellence in system stability and engineering ownership.

Amazon ML Summer School (2020) | **Bronze Medalist**, Xela-Thon (2020)