

SHUBHAM MISHRA

Mumbai, Maharashtra, India

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EDUCATION

Lokmanya Tilak College of Engineering, Navi Mumbai

Aug 2019 – May 2023

Bachelor of Engineering in Computer Science — **CGPA: 9.2/10**

Relevant Coursework: Data Structures & Algorithms, Distributed Systems, Database Management, Software Engineering

TECHNICAL SKILLS

Languages: Java, Python, JavaScript/TypeScript, SQL

Backend & Frameworks: Spring Boot, Quarkus, FastAPI, Hibernate/JPA, REST APIs, Microservices

Databases & Caching: PostgreSQL, MySQL, MongoDB, Redis, ClickHouse

Infrastructure: Kafka, Docker, Kubernetes, NGINX, Azure Cloud, GCP

Tools: Git, Postman, Airflow, Prometheus, OpenTelemetry, Azure DevOps (CI/CD)

EXPERIENCE

Software Development Engineer - I

Oct 2023 – Present

Jio Platforms Limited

Mumbai, MH

Jio BlackRock Asset Management Company

- Architected **session-based encryption system** using HKDF key derivation and AES-GCM encryption with per-session cryptographic isolation, providing forward secrecy and preventing replay attacks for financial API communications at the API Gateway level.
- Built **file storage service** with multi-layered malicious content detection including magic byte validation, executable signature scanning, EICAR pattern matching, and script injection prevention, encrypting files with AES-GCM before Azure Blob Storage to ensure InfoSec compliance.
- Developed **OTP verification service** from scratch supporting SMS and Email delivery with Redis-based session management, configurable TTL, rate limiting, and expiry logic to secure user authentication workflows across the platform.
- Created **FlowTrace monitoring platform** with custom Java annotation-based logging that automatically captures and encrypts request/response data, exposing payment activities, investor journeys, and failure diagnostics through a secure portal with RBAC and Azure 2FA.
- Developed **automated NAV/TER data ingestion system** that processes daily Excel uploads from collaborative banks, validates and parses fund data, stores records in database, archives files to Azure Blob Storage, and triggers email notifications to operations and business teams.
- Implemented **payment integration** with Jio One Pay APIs for transaction processing and account validation, CAMS API integration for fund purchases, and multi-bank management with cheque OCR and TPV verification enabling users to register multiple accounts against folios.
- Built **Zoho CRM integration** using event queuing and scheduled batch processing with retry mechanisms and backfill utilities, enabling business teams to monitor customer journeys and troubleshoot issues via synced activity data and error messages.

Jio Matrix Analytics

- Rewrote backend APIs for **Jio Engage** and **Jio Coupons** using FastAPI with improved architecture, integrated SQLAlchemy ORM for database operations, and implemented Sqitch for version-controlled schema migrations.
- Built **centralized authentication service** to eliminate scattered service-level authentication, configured Emissary Ingress routing rules for header-based credential validation and product-specific URL authorization across analytics services.
- Developed **cross-environment data pipeline** transferring data from GCP to DMZ Kafka cluster via private IP tunnel, deploying FastAPI publisher using Podman and orchestrating file ingestion with Airflow scheduled jobs.
- Containerized services with **Docker and Kubernetes**, wrote Dockerfiles and manifests, configured Horizontal Pod Autoscaling for dynamic resource management, and set up NGINX reverse proxy routes for DMZ deployments.

PROJECTS

CodeJam – Real-Time Collaborative Coding Platform

codejam.shubham-dev.me | GitHub

- **Backend:** Microservices (Spring Boot 3, Spring Cloud Gateway, `codejam-commons`) with JWT at gateway, auth + execution services, Spring Cloud Config. **Code execution** in isolated Docker containers (memory/CPU limits, no network, JS/Python/Java). Auth: email/password, Redis OTP, JWT, Google OAuth 2.0 with PKCE; PostgreSQL; Resend API for email.
- **Frontend:** Next.js 15 (App Router, TypeScript, Tailwind v4), Monaco Editor, protected routes, code execution API.
- **Deployment:** Hosted on **DigitalOcean Droplet**; automatic deployment via **GitHub Actions** (build, GHCR push, SSH deploy); **NGINX** reverse proxy; domain on **Namecheap**; Gitleaks in CI.