

# Sanjay Nainwal

[sanjaynainwal129@gmail.com](mailto:sanjaynainwal129@gmail.com) | [LinkedIn](#) | [9720423975](#) | [GitHub](#) | [Portfolio](#) | [Stack Overflow](#)

## WORK EXPERIENCE

### BharatPe

*Software Development Engineer-2*

**Gurugram, India (Remote)**

*June 2022 – August 2025*

- **Payment Systems and UPI Infrastructure:**

- **Architected** and launched a scalable payment service handling 50M+ daily transactions with refund processing, payment links, and QR UPI features.
- **Engineered** dynamic QR code generation, improving transaction continuity by 35% across 15+ partner banks.
- **Unified** multiple banking systems for seamless UPI transactions, enhancing payment reliability by 28%.
- **Constructed** a real-time downtime detection system for banks/UPI handles, enabling 99.5% uptime through automated rerouting.
- **Launched** payment notification systems for 10,000+ merchants with sub-second latency and real-time updates.

- **Security, Fraud Prevention, and System Integrity:**

- **Engineered** a fraud detection rule engine, blocking ₹900M+ fraudulent transactions and reducing fraud rate by 65%.
- **Fortified** offline QR payment endpoints with hash/token validation, ensuring 100% transaction security.
- **Operationalized** real-time anomaly detection, analyzing 500K+ transactions/hour with a 92% accuracy rate.
- **Orchestrated** monitoring infrastructure (Grafana/New Relic/Coralogix), reducing response time by 40% and achieving 99.9% uptime.

- **Scalability, Performance Optimization, and Resilience:**

- **Modernised** 10-billion-record database migration from RDS to Aurora, boosting query performance by 60% and reducing latency by 45%.
- **Streamlined** Kafka transition from Open Source to Confluent in one week, increasing throughput by 3x to 2M+ events/second.
- **Architected** AWS Disaster Recovery plan, reducing downtime from 8 hours to 15 minutes and ensuring 99.95% continuity.

- **Monitoring, Code Quality, and Production Support:**

- **Established** automated code quality pipeline with SonarQube/Trivy, scanning 100+ repositories and reducing vulnerabilities by 80%.
- **Deployed** APM stack (New Relic/Coralogix), improving system observability by 70% and enabling proactive issue resolution.
- **Resolved** critical production issues with 15+ cross-functional engineers, maintaining 99.8% system uptime

- **API Development and Tech Stack Expertise:**

- **Architected** and launched 25+ RESTful APIs with comprehensive unit testing, achieving 95% code coverage using Java 8, Spring Boot, MySQL, Kafka, Redis, Kubernetes, and Jenkins.
- **Accelerated** backend system performance by 40%, supporting 100M+ API calls/day and contributing to a highly reliable payment platform serving 1M+ active users.
- **Accelerated** backend performance by 40%, supporting 100M+ API calls/day for 1M+ active users

### RazorPay

*Software Engineer*

**Bengaluru, India (Remote)**

*January 2022- May 2022*

- **Engineered** a Credit Account Book application, streamlining order management for 500+ merchants and improving review processing efficiency by 30% using Java and MySQL.
- **Structured** efficient database architectures with MySQL and MongoDB, optimising data retrieval speed by 50% and reducing storage costs by 25%.
- **Executed** comprehensive unit testing with JUnit/TestNG, achieving 90% test coverage with zero critical bugs in production

## Virtually Inc.

Software Engineer,

Seattle, WA (Remote)

April 2021 – December 2021.

- **Pioneered** a low-latency video conferencing app using AgoraRTC, supporting 1000+ concurrent users with 1080p streaming and team games using Java, JavaScript, Angular, WebRTC, and TensorFlow.
- **Enhanced** user experience by implementing the Interaction Creation Feature and REST APIs, increasing user engagement by 45% and integrating payment gateways that processed \$50K+ in event bookings for the Virtually platform.

## Infosys Ltd.

System Engineer

Mysore, India

February 2020 – March 2021

- **Formulated** Java mappings in SAP PI, improving data processing efficiency by 25% across 10+ enterprise systems
- **Accelerated** system performance by optimising backend code, reducing latency by 35% and memory usage by 20%.
- **Constructed** CRUD APIs for an online shopping platform serving 50K+ users with 99.5% uptime

## PROJECTS

### IoT Botnet Attack Detection and Classification

GitHub: [IoT Botnet Attack Detection and Classification](#)

- Architected a machine learning system to detect and classify IoT botnet attacks with a focus on data preprocessing, model training, and evaluation.
- Implemented multiple machine learning models and used visualizations to analyze performance metrics.
- Technologies Used: Python, Scikit-learn, Pandas, NumPy, Matplotlib.

### Driver Drowsiness Detection

GitHub: [Driver Drowsiness Detection](#)

- Developed real-time drowsiness detection using facial landmarks, achieving 92% accuracy in eye aspect ratio calculations
- Integrated alert system with sub-second response time for immediate driver notifications
- Technologies Used: Python, OpenCV, Dlib.

### Portfolio

GitHub: [Sanjay Portfolio](#)

- Constructed a responsive portfolio with 100% mobile compatibility using React.js, achieving a 95+ PageSpeed score.
- Integrated DeepSeek AI chatbot, improving user engagement by 40% through intelligent Q&A functionality

### Image Processing Utilities

GitHub: [Image Processing Utilities](#)

- Developed a set of utility functions for common image processing tasks, including resizing, rotation, and filtering.
- Designed for modularity and ease of use in various image processing applications.
- Technologies Used: Python, OpenCV, NumPy.

## SKILLS

**Languages:** Java | C++ | Python | TypeScript | JavaScript | SQL | NoSQL

**Backend & Frameworks:** Spring Boot | Spring MVC | Hibernate/JPA | Django | REST | OpenAPI | JUnit | TestNG | Mockito

**Databases & Messaging:** MySQL | PostgreSQL | MongoDB | Redis | Apache Kafka | Firebase | Elasticsearch

**Cloud & DevOps:** AWS (EC2, S3) | GCP | Docker | Kubernetes | Jenkins | Maven | Gradle | CI/CD | Swagger | Vault | Grafana | New Relic | Devtron | SonarQube | Coralogix

**Architecture & Practices:** Distributed Systems | Microservices | Event-Driven Architecture | Caching | High Availability | Design Patterns | TDD | Agile | SDLC

## EDUCATION

Graphic Era University

**Bachelor of Technology** in Computer Science and Engineering (CGPA: 8.43)

Dehradun, India

Graduation Date: June 2020