

Aditya Tiwari

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Summary

Backend engineer proficient in Java/Golang microservices, Docker/Kubernetes orchestration, and cloud-native development, with expertise in building scalable distributed systems using Spring Boot and multi-database architectures.

Technical Skills

Programming: Java, Golang, Python, Algorithms & Data Structures **Security:** JWT, AES, RBAC, OAuth2
Backend: Spring Boot, Microservices, RESTful APIs, Unit Testing, PostgreSQL, MongoDB, JWT **Messaging:** Kafka, RabbitMQ, Prometheus, Grafana
DevOps & Cloud: Docker, Kubernetes, AWS (EC2, EKS, S3, IAM, VPC), Azure, Git, CI/CD

Experience

Open Source Contributor, Kubernetes Project (May 2025 – Aug 2025)

[PR 133072](#) [↗](#)

- Fixed critical startup probe bug in Kubernetes kubelet affecting sidecar containers, resolving main container initialization failures in production clusters.
- Implemented targeted 3-line fix in probe worker logic with proper restart policy validation and developed comprehensive unit/E2E tests validating the solution across multiple container scenarios.
- Collaborated with Kubernetes SIG Node maintainers through code reviews, contributing to v1.34 release cycle while maintaining backward compatibility.

Research Intern, IIITDM Kancheepuram (Advisor: Dr. Gowthaman Swaminathan, Jan 2025 – May 2025)

[GitHub](#) [↗](#)

- Built distributed AI training platform using Spring Boot microservices and Kafka for CNN training on Boron Nitride composites, reducing training time by 40% (60 to 36 mins).
- Integrated Deeplearning4j for parallel training across 3+ nodes achieving 95% accuracy, deployed on AWS EKS with MongoDB scaling to 10x larger datasets (1.2 GB).

Projects

Secure Notes Management System

[GitHub](#) [↗](#)

- Designed a secure notes system with AES encryption and Role-Based Access Control (RBAC), ensuring robust security.
- Enhanced system security with JWT authentication and deployed via Docker for streamlined development and deployment.

DataVault: Enterprise Data Sovereignty Platform

[GitHub](#) [↗](#)

- Engineered quantum-resistant P2P platform with BFT consensus, Zero-Trust security, and threshold secret sharing, achieving 40% efficiency and 60% security improvements.
- Developed AI-powered GDPR/HIPAA compliance automation with real-time threat detection and cross-platform applications (Next.js, React Native).

Certifications

Goldman Sachs Software Engineering Virtual Experience – Assessed **MD5** vulnerabilities, demonstrated attacks with **Hashcat**, and proposed **bcrypt/Argon2**, **MFA**, and security best practices.

Education

B.Tech, Mechanical Engineering — Indian Institute of Information Technology Kancheepuram *Grad. 2025*
Coursework: Adv. DSA, OS, Software Engg., Networks