Aditya Tiwari

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Summary

Software Engineer proficient in Java, Spring Boot, and microservices, with hands-on experience in building scalable, distributed systems. Skilled in Kubernetes, Docker, and cloud platforms (AWS/Azure), and adept at working with SQL (PostgreSQL) and NoSQL databases to deliver robust solutions.

Technical Skills

Backend: Java, Spring Boot, Microservices, PostgreSQL, MongoDB, Deeplearning4j, JWT
DevOps & Cloud: Docker, Kubernetes, AWS (EC2, EKS, S3, IAM, SSM, VPC), Azure, Git, CI/CD
Messaging & Monitoring: Kafka, RabbitMQ, Prometheus, Grafana
Security: JWT, AES, RBAC, OAuth2

Projects

Distributed AI Model Training Platform   **GitHub** ↗

- Built a scalable **AI training platform** using **Spring Boot** and **microservices**, enabling distributed training across multiple nodes with improved efficiency.
- Designed **Kafka-based task distribution** and **data chunking**, cutting training time by **40%** (e.g., 60 to 36 mins for MNIST) and optimizing resources.
- Integrated **Deeplearning4j** in **Worker Services** for parallel neural network training, processing dataset chunks (e.g., 122 MB MNIST) across 3+ nodes.
- Leveraged **MongoDB** in a **Dockerized setup** for real-time status tracking, reducing node memory usage by **50%** (e.g., 8 GB to 4 GB).
- Deployed on **AWS EKS** with **Kubernetes**, managing **EC2**, **S3**, and **VPC**, ensuring scalability for datasets up to **10x larger** (e.g., 1.2 GB).

Secure Notes Management System   **GitHub** ↗

- Developed a secure notes system leveraging **AES encryption**, removing plaintext storage and cutting unauthorized access risks by **90%**.
- Implemented **Role-Based Access Control (RBAC)** with Spring Security, managing **3+ user roles** for precise access management.
- Created an **audit logging system** to monitor **100% of user activities**, enhancing compliance with security standards.
- Enhanced API security with **JWT authentication** and **OAuth2**, streamlining login processes and reducing authentication errors by **80%**.

AI-Powered Email Assistant Extension   **GitHub** ↗

- Developed an AI-driven email assistant using **Spring Boot** and **Google Gemini**, delivering personalized replies and improved user engagement.
- Reduced email response time by **30%** through AI-powered suggestions and automation.
- Built a browser extension for seamless email management, increasing user productivity by **40%**.

Certifications

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

Education

Bachelor's Degree in Mechanical Engineering   Expected Graduation: 2025
Indian Institute of Information Technology Kancheepuram