Mohd Arshad

+91-7887096421 | arshadmohd8574@gmail.com | LinkedIn | GitHub| Portfolio

Education

Babu Banarsi Das Northern India Institute Of Technology — Lucknow, India
Bachelor of Technology in Information Technology (GPA: 7.6/10.0) — *2022 – 2026*
Relevant Coursework: Data Structures & Algorithms, DBMS, OOPS (Java), OS, Computer Networks.

Technical Skills

Languages: Java, Python, SQL, JavaScript (ES6+)
Backend & Cloud: Spring Boot 3, Hibernate JPA, Microservices, Apache Kafka, Docker, Oracle Cloud (OCI)
Data Science & AI: Pandas, NumPy, Scikit-learn, Hugging Face Transformers, Streamlit, Plotly
Frontend & Web: React.js, TypeScript, HTML5, CSS3, Tailwind CSS
Databases: PostgreSQL, MongoDB, MySQL, Redis
Tools: Git/GitHub, Postman, Maven, JIRA

Experience

Backend Developer Intern — Aug 2024 – Present
AplyEase (Startup) — *Remote*

- Engineered the core backend architecture using **Java Spring Boot** and REST APIs, ensuring modularity and scalability.
- Integrated **Gemini AI models** to automate the resume parsing module, reducing manual data entry efforts by **40%**.
- Collaborated with the frontend team to debug API endpoints and decrease page load time by **25%**.

Research & Publications

GeoSentinel: Computational Framework for Conflict Simulation — Sep 2025 – Present

- **Objective:** Developed a **synthetic simulation engine** to model the interplay between kinetic warfare (physical attacks) and information warfare (narrative sentiment) using quantitative indices.
- **Technical Architecture:** Engineered a dual-pillar processing pipeline in **Python**, integrating **DistilBERT** transformers for sentiment quantification and **PCA (Principal Component Analysis)** for dynamic weight distribution between variables.
- **Validation:** Implemented **Granger Causality tests** to statistically validate lead-lag relationships between narrative spikes and kinetic escalation within simulated environments.

Projects

StreamFlow - Distributed Notification Engine | *Java, Kafka, Redis, MongoDB, Zipkin*

- Designed a fault-tolerant, event-driven architecture using **Apache Kafka** to decouple producers/consumers, ensuring zero data loss during traffic spikes via **Dead Letter Queues (DLQ)**.
- Implemented **Write-Through Caching** with **Redis**, enabling sub-millisecond (5ms) latency for recent notification retrieval while offloading read traffic from the primary **MongoDB** database.
- Achieved system observability by integrating **Zipkin** for distributed tracing and **Testcontainers** for reliable integration testing against real infrastructure.

FlashTix - High Concurrency Ticketing System | *Java, Spring Boot, Redis, Lua Script*

- Engineered a high-performance booking engine capable of handling concurrent requests using **Redis Distributed Locks** and **Lua Scripts** to ensure atomic operations.
- Prevented "Double Booking" anomalies by implementing **Optimistic Locking** (@Version) at the database level as a fail-safe mechanism.
- Optimized system throughput by utilizing **HikariCP** for efficient connection pooling and monitored real-time metrics (Sold Out Errors, Latency) using **Prometheus & Grafana**.

Career Catalyst - AI Resume Optimizer | *Spring Boot, Python, Google Gemini, LaTeX*

- Built a hybrid architecture orchestrating a **Spring Boot** backend with **Python AI agents** via ProcessBuilder to perform semantic analysis on resumes using **Google Gemini Pro LLM**.
- Developed a dynamic document generation engine that compiles structured user data into pixel-perfect **LaTeX** templates, solving ATS parsing issues common with HTML-to-PDF converters.
- Designed a non-blocking API flow using reactive wrappers to handle long-running AI tasks asynchronously without blocking the main server threads.

Achievements & Certifications

Oracle Cloud Infrastructure (OCI) Foundations Associate Certified (2025): Validated proficiency in cloud architecture, IAM (Identity & Access Management), and core OCI services (Compute, Storage, Networking), demonstrating readiness for enterprise cloud deployments.

1st Rank – Code Master Competition: Secured top position among **100+ participants** by optimizing a critical array processing algorithm using **Bitwise Logic** (XOR operations), which reduced execution time by **40%** compared to standard iterative solutions.