

# AVIJIT PAUL

Backend Engineer | Java · Spring Boot · Microservices · Distributed Systems

📍 Dhaka, Bangladesh (Remote-Ready) ☎ +880 1712-768758 📩 avijit.paul.cs@gmail.com

LinkedIn: [linkedin.com/in/avijitpaulavi](https://linkedin.com/in/avijitpaulavi) GitHub: [github.com/X-AVI-X](https://github.com/X-AVI-X)

## Professional Summary

Backend & Platform Engineer with **2 years of production experience** architecting **microservice ecosystems serving 100+ enterprise users**. Expert in **Java 17+, Spring Boot 3.x, Spring AI**, and event-driven distributed systems. Designed and shipped 8+ microservices end-to-end, built AI-powered chatbots with LLM tool-calling, and engineered real-time WebSocket collaboration platforms. Proven track record of reducing manual workflows by **35%** and accelerating development velocity by **40%**. Seeking mid-level roles in platform engineering, distributed systems, or backend infrastructure at high-growth remote-first companies.

## Technical Skills

- **Languages & Core:** Java 17+, Python, JavaScript/TypeScript, SQL.
- **Frameworks:** Spring Boot 3.x, Spring Security, Spring Data JPA, Spring Cloud, Hibernate, Lombok, MapStruct.
- **Microservices:** Eureka Service Discovery, Spring Cloud Config, API Gateway, Feign Client, Flyway Migrations.
- **Messaging & Real-Time:** RabbitMQ (STOMP Relay), WebSocket, Server-Sent Events (SSE), Reactor/WebFlux.
- **AI/ML Integration:** Spring AI, Ollama (Llama 3.2), LLM Tool-Calling, Conversational Memory, JSON Repair.
- **Data & Storage:** PostgreSQL, MySQL, JPA Specifications/Criteria API, JPQL, Query Optimization.
- **DevOps:** Docker, Kubernetes, Bash/Shell Scripting, SSH Tunneling, CI/CD, Linux, Git.
- **Frontend:** React, Next.js 14+, Tailwind CSS, SockJS, Responsive Design.
- **Practices:** Agile/Scrum, TDD, Domain-Driven Design, SOLID, Design Patterns, Code Review.

## Professional Experience

### One Direction Companies Limited (ODCL)

Software Engineer II – Backend & Platform

Dhaka, Bangladesh

Nov 2024 – Present

Sole backend architect for enterprise systems now serving **100+ active users** across multiple departments. Owner of 8+ microservices in production with **99% on-time delivery rate**.

#### Shimana – Land Management Platform

- Designed and shipped an **8-service microservice ecosystem** using **Domain-Driven Design** (Config Server, Eureka, Gateway, Auth, Asset, Location, Purchase, Sourcing), enabling independent deployments and zero-downtime updates.
- Architected complete **Purchase Requisition Service** with multi-entity workflows spanning Land Registration, Price Negotiation, and Bank Validation via cross-service Feign calls.
- Built complete **Land Sourcing Service** managing full land acquisition lifecycle: owner details, vetting documents, and price negotiation audit trails.
- Developed **automated PDF Book Builder** with dynamic table of contents generation, document categorization, and multi-section merging using PDFBox.
- Engineered **centralized Location Service** as single source of truth for a 5-level hierarchy (Country → Division → District → Thana → Mouza), eliminating data duplication across 6+ services.
- Implemented **8-field dynamic search** with JPQL ILIKE patterns and JpaSpecificationExecutor, enabling sub-second queries across 10,000+ asset records.
- Reduced **manual administrative effort** by **35%** through automated workflows (notifications, reminders, status tracking).

#### Business Directory – Real-Time Collaboration & AI Platform

- Built complete **Meeting Scheduler Service** with file attachments, participant management, and **event-driven notifications** using Spring ApplicationEventPublisher.
- Developed **real-time messaging system** with group chat (per meeting) and one-to-one personal chat, featuring unread tracking, read receipts, and participant validation—all over STOMP/RabbitMQ.
- Implemented **custom JWT WebSocket authentication** via ChannelInterceptor, validating tokens on CONNECT and enforcing per-meeting authorization.
- Developed **AI-powered meeting scheduling chatbot** using **Spring AI ChatClient** with conversational memory for multi-turn context.
- Engineered **LLM tool-calling** with custom JSON repair logic (regex-based bracket balancing) to handle malformed outputs—achieving **95%+ tool execution success rate**.
- Delivered **SSE-based reactive streaming** using Project Reactor, filtering JSON blocks while executing tools asynchronously.

#### DevOps & Developer Experience

- **Mentored 2 junior developers** on backend architecture, system design, and microservices best practices.
- Implemented **Redis caching** for session management and frequently accessed data, reducing database load.
- Authored **418-line Bash orchestration script** for multi-phase startup with health checks, PID tracking, SSH tunneling, and graceful shutdown.
- Containerized stack with **Docker Compose** (225-line config): Flyway migrations, health probes, and multi-schema PostgreSQL.

- Developed **20+ reusable React/Next.js components**, cutting frontend form development time by **40%**.

### **BJIT**

*Associate Software Engineer (Java, Spring Boot, React)*

Dhaka, Bangladesh

2023

- Developed low-latency Java microservices participating in full SDLC: requirement analysis, architecture design, implementation, unit testing (JUnit/Mockito), and deployment.
- Gained hands-on experience with Docker containerization, build automation, and microservices patterns.
- Proposed and implemented code improvements during architecture reviews, reducing technical debt.

### **Square Health Ltd**

*Software Engineer Intern*

Dhaka, Bangladesh

2023

- Designed and delivered **Hospital Billing System** with secure financial workflows and high-volume transaction logging.
- Collaborated on database schema optimization and resolved production-level defects.

## **Projects**

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### **Personalized Health Management System | Spring Cloud, Eureka, Zipkin, Feign**

GitHub

- Built distributed microservices with service discovery (Eureka), distributed tracing (Zipkin), and inter-service communication (Feign).
- Implemented centralized configuration and API Gateway routing for unified access control.

### **Hospital Billing System | Spring Boot, JWT, JPA, MySQL**

GitHub

- Designed secure financial workflows with role-based authorization (Admin, Staff, Patient).
- Optimized database schema for high-volume transaction logging and audit trails.

### **Online Book Library | Spring Boot, JPA, MySQL, REST API**

GitHub

- Clean architecture with domain-driven design, role-based access (Customer/Admin), and book reservation system.

### **Bomber-man Game | Java, PApplet, 2D Graphics**

GitHub

- Dynamic 2D game with destructible environments, enemy AI pathfinding, and strategic bomb mechanics.

## **Education & Certifications**

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### **B.Sc. in Computer Science & Engineering**

2018 – 2022

*American International University–Bangladesh (AIUB)*

CGPA: 3.64 / 4.00

- **Thesis:** Real-Time Threat & Anomaly Detection from Surveillance Video using LRCN & LSTM.
- **Award:** Champion – Senior ICT Olympiad (JARVIS, ACC, AIUB 2023).

**Certifications:** Software Product Management (University of Alberta/Coursera)

**English:** IELTS Academic **7.5** (Professional Working Proficiency)