Mohibul Hassan Chowdhury

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Professional Summary

Senior Software Engineer II with 7+ years building high-reliability SaaS and distributed backend systems. Drive architecture for a CPaaS/contact-center platform serving 24,000+ users at 99.99% uptime. Architected production Google Vertex AI/Gemini call-intelligence capabilities and led database, reliability, telephony, and payment initiatives that reduced production risk and infrastructure cost. Strong in system design, production debugging, and technical leadership.

Professional Experience

Cefalo (Cefalo AS, Norway) Dhaka, Bangladesh
Senior Software Engineer II *Sep 2022 – Present*

- **Architected and shipped production AI call transcription** using Google Vertex AI/Gemini for call recordings, supporting single and batch processing, multilingual prompting, credential management, confidence-based evaluation, and resilient failure handling across backend and admin workflows; evaluated model/provider reliability and bring-your-own-key pricing tradeoffs to inform product decisions.
- **Designed conversation-intelligence architecture** and implemented transcript-derived summaries across backend, database, admin, and agent workflows, including revision-aware staleness, append-only lifecycle state, batch processing, retries, feature flags, and notifications.
- **Reduced database overhead and production risk** after analyzing approximately 68M records and cross-system dependencies; led the migration that removed 8 write triggers and 4 unused tables, eliminated approximately 1.8M unnecessary writes/month, reclaimed an estimated 50–100 GB on affected database instances, and contributed to an estimated $600–1,200/year in infrastructure savings.
- **Built subscription and payment capabilities** across frontend and backend, including new/lost/net analytics, payment forecasts, search/filtering, and lifecycle operations; later reviewed architecture for a new payment platform intended to expand customer buying and payment options.
- **Serve as a subject-matter expert for telephony and production reliability**, tracing complex failures across Java services, Erlang state machines, SQL, anonymization, transcription, dialing, and messaging workflows to resolve correctness, privacy, and reliability issues.
- **Provide technical leadership through architecture and code reviews** across Java, Erlang, AI, messaging, payment, and telephony systems; identify failure-mode, API-boundary, correctness, and scalability risks before merge and guide engineers toward simpler, safer designs.

Brain Station 23 Dhaka, Bangladesh
Software Engineer *Dec 2020 – Sep 2022*

- **Built production Spring Boot REST APIs** using Spring Data JPA/Hibernate with transactional domain modeling and backend patterns for multi-tenant enterprise systems.
- **Designed multi-tenant authentication and authorization** with hierarchical roles and tenant-boundary enforcement.
- **Integrated Stripe billing workflows** across product catalog, transactions, and provisioning; expanded automated coverage with JUnit and Mockito to reduce regression risk.
- **Contributed to the AbbViePro healthcare platform** across a Java backend, Adobe Experience Manager, and AngularJS.

Welldev Dhaka, Bangladesh
Junior Software Engineer *Sep 2019 – Nov 2020*

- **Built full-stack chatbot products** with Spring Boot, PostgreSQL, Vue.js, and Nuxt.js, spanning REST APIs and responsive frontend experiences.
- **Improved development consistency and onboarding** by building a Storybook component library and Dockerizing local development environments.

Technical Skills

Languages	Java, SQL, Erlang, Python, TypeScript, JavaScript
Backend & APIs	Spring Boot, Spring Security, Spring AI, Jersey (JAX-RS), Spring Data JPA/Hibernate, JDBC, REST APIs
Distributed Systems	System Design, Microservices, High Availability, Data Modeling, Idempotency, Consistent Hashing
AI/LLM	Google Vertex AI, Gemini, AWS Bedrock, RAG, PGVector, LLM Integration, Speech-to-Text, Structured Output, Batch AI Pipelines
Data & Performance	MySQL, SQL Optimization, Database Migration, JMH, JMX, VisualVM, Eclipse MAT, Heap Analysis, GC Tuning
Cloud & DevOps	AWS (EKS, Bedrock), Docker, GitHub Actions, CI/CD
Telephony	WebRTC, SIP/PJSIP, Asterisk, Contact-Center/CCaaS/CPaaS Systems
Security & Testing	TLS/JSSE, OAuth2, JWT, JUnit, Mockito, Integration Testing, Selenium
Frontend	Vue.js, Nuxt.js, TypeScript, AngularJS

Selected Technical Projects & Expertise

- **AI/LLM Systems:** Designed Spring AI agent architectures with streaming chat, JDBC-backed persistent memory, Retrieval-Augmented Generation (RAG) with PGVector, tool invocation, AWS Bedrock/Google Vertex AI orchestration, and EKS deployment.
- **JVM Performance & Security:** Applied JMH, JMX, VisualVM, Eclipse MAT, and garbage-collection tuning for performance analysis; implemented TLS/JSSE, OAuth2/JWT authentication, and secure sandboxing patterns.
- **Distributed Systems:** Applied idempotent API patterns, consistent hashing, microservices decomposition, and high-availability design across Java and Erlang systems.

Technical Writing & Independent Work

- **Baeldung contributor and creator of 100DaysOfJava / Java Learning Atlas**, publishing practical material on JVM internals, performance, concurrency, security, distributed systems, and Spring AI/RAG.

Education

BRAC University Dhaka, Bangladesh
Bachelor of Science in Computer Science *2019*