

MUHAMMAD AOUN

Senior Mobile & Backend Engineer

CONTACT

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Location: Vietnam | Open to relocation

PROFESSIONAL SUMMARY

System Architect with 8+ years of software development experience spanning mobile (Android, Flutter), backend microservices (Spring Boot, Kotlin), and real-time communication systems. Proven expertise in designing and delivering secure, scalable applications across ride-hailing, live-streaming, conferencing, IoT, and fintech domains. Strong background in full-stack ownership, system architecture, team leadership, and production-grade solutions. Currently building Spozon, a full-featured sports court booking platform with Flutter frontend and Spring Boot microservices backend.

TECHNICAL EXPERTISE

Languages: Java, Kotlin, Dart, SQL

Mobile: Android SDK, Jetpack Compose, Flutter, MVVM, Clean Architecture, Riverpod, Hilt, Dagger2, Room Database

Backend: Spring Boot (Java/Kotlin), REST APIs, GraphQL, Microservices Architecture, Distributed Systems, Event-Driven Architecture

Real-Time: WebRTC, Janus, Jitsi, Socket.IO, WebSockets, MQTT, SIP, Agora, QuickBlox

Messaging: Apache Kafka, RabbitMQ, Firebase Cloud Messaging (FCM)

Databases: PostgreSQL, Redis, MongoDB, SQLite, Hive, Room Database, Firebase Realtime database

Security & Authentication: JWT, OAuth2, Secure BLE Communication, Encrypted Data Transmission

Observability & Monitoring: SLF4J, Logback, Micrometer, OpenTelemetry, Prometheus, Loki, Tempo, Grafana

Cloud, DevOps & Tools: Docker, Git, SVN, CI/CD, Jira, Firebase, Crashlytics, Analytics, OneSignal

Connectivity & Embedded Systems: Bluetooth Low Energy (BLE), Classic Bluetooth, NFC, IoT Integration, Android Automotive OS (AOSP), AIDL

Third-Party Integrations: Google Maps Platform, Stripe Payments, Firebase Services

PROFESSIONAL EXPERIENCE

SYSTEM ARCHITECT, FPT

January 2026 - Present

Project: ASSAABLOY Smart Home Door Lock Application

Role: System Architect & Mobile Developer

Team: 15 members

Architected and developed an end-to-end Android smart home door lock solution using Java and Kotlin, enabling secure lock/unlock via Bluetooth Low Energy (BLE) and NFC card access. Designed scalable microservices backend integration using GraphQL APIs for device management, access control, and activity auditing. Implemented secure BLE device pairing, low-latency command execution, and robust error handling across multiple Android device models.

Key Achievements:

- Designed secure BLE communication protocol with reliable connection state management and reconnection strategies for mission-critical lock operations
- Implemented NFC-based access verification coordinating with app state management and lock authentication flows
- Architected GraphQL API integration for user/device onboarding, role-based access control, and real-time activity synchronization
- Collaborated with firmware and backend teams to define BLE characteristics and API contracts ensuring production-ready reliability
- Enhanced security and stability through robust error handling and edge-case troubleshooting across device variants

Technologies: Android Native, Java, Kotlin, GraphQL, Jetpack Compose, BLE, NFC

Project: JVCK Automotive Head Unit Integration

June 2025 - December 2025

Role: Senior Mobile Developer

Team: 156 members

Engineered AAOS (Android Automotive OS) features for seamless vehicle-to-phone Bluetooth integration and implemented high-performance rear camera interface for real-time monitoring. Architected AOSP-based Phonebook and Dialer with live contact synchronization and hands-free calling capabilities compliant with automotive safety standards.

Key Achievements:

- Engineered PBAP and HFP telephony suites for real-time contact synchronization and fast Bluetooth handshake optimization
- Developed FMVSS-compliant rear camera initialization and low-latency Panoramic View Monitoring using JNI/HAL with 360-degree vehicle sensor overlays

- Implemented secure AIDL interfaces bridging ECU data with dynamic navigation overlays and vehicle sensor inputs
- Led technical coordination with global partners from hardware prototyping through production rollout
- Mentored junior engineers through Agile workshops on system-level Android architecture and SAFe methodology

Technologies: Android, Java, AOSP, AIDL, JNI, Automotive Safety Standards

SENIOR ENGINEER / FULL STACK DEVELOPER, Spozon (Personal Project)

Started: 2025 | Status: In Development

Full-featured sports court booking and management platform. Designed Flutter mobile application (players, coaches, coordinators, employees) with real-time chat, notifications, and location-based court discovery. Built scalable Spring Boot microservices backend with event-driven architecture supporting bookings, tournaments, payments, and staff management.

Key Achievements:

- Designed and developed a Flutter mobile application with role-based workflows, booking management, real-time chat, notifications, and social features.
- Architected a Spring Boot microservices ecosystem comprising 13+ services with API Gateway, Authentication, User Management, Booking, Payment, Notification, and Email services.
- Implemented event-driven architecture using Kafka and RabbitMQ for asynchronous processing, notifications, and inter-service communication.
- Built secure authentication and authorization using Firebase Authentication (Google Sign-In, OTP), JWT, OAuth2, and RBAC.
- Integrated Google Maps, PostgreSQL PostGIS, and Redis to enable geospatial court discovery, caching, and performance optimization.
- Containerized services using Docker and implemented observability with Micrometer, OpenTelemetry, Prometheus, Loki, Tempo, and Grafana.
- Integrated Stripe, Google Pay, and Firebase Cloud Messaging to support payments and real-time user engagement.

Technologies: Flutter, Dart, Spring Boot, Java, Kotlin, Microservices, Kafka, RabbitMQ, Docker, PostgreSQL, Redis, PostGIS, Firebase Authentication, JWT, OAuth2, WebSockets, Stripe, Google Pay, OpenTelemetry, Prometheus, Loki, Tempo, Grafana

MOBILE DEVELOPER & TEAM LEAD, KhudiVentures

January 2023 - April 2025

Developed matrimonial matching application (DIL KA RISHTA) and e-commerce platform (BIKJAA). Designed subscription-based profile systems, matching algorithms, real-time chat/calling using WebRTC, and secure payment integrations. Led mobile development team implementing end-to-end features from user onboarding to transaction workflows.

Key Achievements:

- Architected subscription-based profile creation and listing system optimizing user visibility and profile management workflows
- Implemented AI-driven matching algorithms and recommendation systems for profile and product relevance
- Engineered real-time in-app chat and peer-to-peer calling using Socket.io and WebRTC for seamless user engagement
- Developed secure REST APIs for profile management, e-commerce listings, and transaction processing with local database optimization
- Delivered real-time notifications and resolved production issues ensuring smooth platform experiences
- Led mobile development team providing code reviews, best practices mentoring, and architectural guidance

Technologies: Android, Kotlin, Jetpack Compose, PaperDB, RoomDB, Google Pay, Spring Boot, Java, PostgreSQL, Kafka, RabbitMQ, WebRTC

MOBILE DEVELOPER & TEAM LEAD, NeeoPal

July 2022 - June 2023

Developed social applications (Neeo, Gather, RingTok) featuring live streaming, interest-based matchmaking, and real-time engagement. Engineered peer-to-peer calling and conferencing infrastructure with WebRTC, Socket.io, and scalable in-app chat systems. Managed subscription systems and secure payment workflows.

Key Achievements:

- Led end-to-end social platform development implementing profile creation, interest browsing, and advanced matchmaking algorithms
- Engineered real-time chat, audio/video calls, and live streaming modules using Socket.io, WebRTC, Agora, and QuickBlox
- Architected subscription systems with free quotas, wallet integration, and secure Stripe/Google Pay payment workflows
- Designed and coordinated REST API integrations ensuring high performance and scalability across user base
- Provided technical leadership to Android team through code reviews, architectural mentoring, and complex issue resolution

Technologies: Android, Java, Kotlin, Jetpack Compose, Agora, QuickBlox, Socket.io, RoomDB, Spring Boot, PostgreSQL, Kafka, RabbitMQ, WebRTC

ANDROID ENGINEER / RESEARCH ENGINEER, Afiniti

January 2021 - June 2022

Engineered audio conferencing application by customizing native WebRTC codebase to support 50+ concurrent participants. Integrated SIP functionality enabling seamless web-to-SIM connectivity. Implemented advanced noise cancellation and optimized media streaming protocols.

Key Achievements:

- Customized native WebRTC stack implementing master-slave architecture for scalable 50+ participant conferencing with low latency
- Optimized call quality through advanced noise cancellation algorithms and SDP parameter fine-tuning with Protocol Buffers
- Implemented SIP functionality for web-to-PSTN and SIM-to-web calling leveraging Sofia server integration
- Researched and integrated multi-channel notification systems (OneSignal, Firebase) for reliable user engagement
- Architected and led design of media server-like communication features for high-concurrency real-time workflows

Technologies: Android, Java, Kotlin, WebRTC, SIP, PSTN, OneSignal, Firebase

ANDROID ENGINEER / RESEARCH ENGINEER, Bellstone

January 2020 - December 2020

Developed cross-platform communication application supporting audio/video calls, conferencing, chat, and file transfer. Integrated WebRTC, Janus, Socket.io, and Rocket.Chat with flexible server configuration for internet and local network deployment.

Key Achievements:

- Designed and integrated cross-platform audio/video calling and conferencing using WebRTC and Janus for robust real-time communication
- Implemented real-time chat using Socket.io and Rocket.Chat supporting both internet and local network interactions
- Enabled secure file transfer through WebRTC data channels with accessible storage capabilities
- Architected flexible server configuration options supporting customized communication deployments
- Optimized performance ensuring seamless real-time audio, video, and chat across multiple platforms

Technologies: Android, Java, Kotlin, Socket.io, WebSocket, Firebase, Rocket.Chat, WebRTC, Janus

ANDROID ENGINEER / RESEARCH ENGINEER, Wizlinx

January 2018 - December 2019

Developed multiple Android applications: Slide Cab (school bus tracking), Locate My Bus (real-time tracking), and My Order Box (food ordering and delivery platform). Implemented advanced geolocation, NFC verification, geofencing, and real-time notification systems. Applied modern design patterns and best practices across teams.

Key Achievements:

- Designed and maintained separate Android applications for multiple user roles (parents, drivers, customers, riders) with advanced geolocation and NFC features

- Implemented real-time tracking, geofencing alerts, and automated notifications for time-sensitive events
- Built restaurant browsing, menu management, order placement, and live delivery tracking with REST APIs and Google Maps integration
- Integrated MQTT and Socket-based communication for real-time location updates and event notifications
- Applied secure authentication, data privacy measures, and offline-capable local database management using SQLite
- Collaborated with backend teams, managed version control, and conducted end-to-end testing and optimization

Technologies: Android, Java, Google Maps, MQTT, Firebase, Git, Jira

SENIOR CONSULTANT ENGINEER, TekHQS

Project: Fleet Management System (FMCSA Compliance)

Designed and delivered FMCSA-compliant Android application for real-time driver and vehicle activity monitoring. Integrated BLE connectivity with Electronic Logging Devices (ELDs) ensuring secure data transmission, offline logging, and robust synchronization with Spring Boot backend APIs.

Key Achievements:

- Architected Android application connecting to ELDs via BLE for real-time activity logging compliant with FMCSA regulations
- Developed secure Spring Boot REST APIs for log transmission and compliance reporting supporting regulatory audits
- Engineered offline data storage and synchronization ensuring no data loss during network outages
- Implemented strong encryption and authentication protecting sensitive driver and vehicle data per regulatory standards
- Conducted compatibility testing across multiple ELD devices and Android models optimizing user experience

Technologies: Android, Kotlin, Jetpack Compose, BLE, Google Maps, Spring Boot

SENIOR CONSULTANT ENGINEER, Cyber Advance Solutions

Project: Online Examination Management System

Developed a secure online admission testing platform with separate Android applications for students and teachers. Integrated Agora for live video/audio proctoring ensuring continuous student supervision throughout the examination period. Implemented credential and CNIC verification for secure access.

Key Achievements:

- Architected dual Android applications (student and teacher interfaces) enabling live video/audio monitoring using Agora

- Implemented secure credential and CNIC-based authentication ensuring valid and authorized access
- Designed live camera monitoring enabling real-time teacher supervision throughout examination periods
- Developed RESTful APIs with Spring Boot managing user data, room assignments, and test sessions
- Integrated Firebase for real-time notifications enabling timely communication during examination workflows

Technologies: Android, Kotlin, Agora, Spring Boot, Firebase

EDUCATION

Bachelor of Science in Computer Science

FAST University, Pakistan

CERTIFICATIONS

- Flutter and Dart: Developing iOS, Android, and Mobile Apps - IBM
- Docker Foundations Professional Certificate - LinkedIn(Dockers)
- GraphQL Essentials - LinkedIn Learning
- Elasticsearch Essentials - LinkedIn Learning
- Apache Kafka Essential Training - LinkedIn Learning

INDUSTRY EXPERTISE

Ride-Hailing | Audio/Video Calling & Conferencing | Live Streaming | E-Commerce | Fintech | IoT & Connectivity (BLE, Bluetooth, NFC) | Automotive (AAOS, AOSP) | Smart Home | Fleet Management | Education Technology

KEY COMPETENCIES

System Architecture | Microservices Design | Full-Stack Development | Mobile Application Development | Real-Time Communication Systems | Event-Driven Architecture | Secure Authentication & Encryption | Database Design & Optimization | Team Leadership | Agile & Scrum | Code Review & Mentoring | Production Support & Troubleshooting