

Aqib Mehedi

Senior Solutions Architect | AI, Mobile & Enterprise Systems Engineer

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PROFESSIONAL SUMMARY

Senior Solutions Architect with 9+ years of production engineering experience (10+ years in software & systems development) across Autonomous AI Systems, High-Security FinTech, Cross-Platform Mobile Engineering, and Enterprise Cloud Infrastructure. Architect of Contragraviton (autonomous agentic orchestrator with 13 native CLI tools), Krishok AI (multimodal agricultural intelligence for thousands of Bengali farmers), Danesh Exchange Australia (banking-grade FX platform handling 60+ currencies), and 30+ delivered software ecosystems. National ICT Award Winner (BASIS). Proven track record of building mission-critical products from zero to production across AI, FinTech, AgriTech, EdTech, IoT, and Enterprise SaaS.

WORK EXPERIENCE

Senior AI Software Engineer & Tech Lead

01/2025 — Present

Kamal-Paterson Ltd

- Architected Krishok AI: Voice-first agricultural AI platform with GPT-4.0 integration, Bangla dialect voice interaction, and computer vision crop pathology diagnosis serving thousands of rural farmers.
- Built Contragraviton: Autonomous Agentic Process Orchestrator (APO) with 13 native execution tools, dual-path vector search, AST code synthesis, and multi-LLM routing.
- Developed Tea Pest Intelligence Platform: Enterprise offline-first GIS mobile telemetry with Next.js WebGL isometric 3D heatmaps and PostGIS spatial analytics.
- Created McFTP: Local-first enterprise document operating system featuring zero-trust departmental isolation, automated OCR, and local LLM knowledge querying.
- Engineered KP Nexus: Enterprise boardroom automation hub with zero-install WebRTC screen casting and one-touch conferencing.
- Built McDonald's Enterprise Digital Infrastructure and McDry Commercial Portal using Next.js SSR.
- Launched 5+ production AI-driven mobile applications using Flutter, FastAPI, and Firebase.

Full-Stack Mobile App Developer

09/2023 — 12/2024

Technosoft Informatics LTD

- Developed Tcard: Virtual NFC contactless payment solution with secure on-device micro-transactions.
- Built Porua.org: Multilingual eBook platform with hardware-backed DRM encryption and anti-piracy protection.
- Delivered OnlyMCQ (exam prep platform) and Saifurs Books (educational e-commerce).
- Created REST APIs with Laravel and managed Firebase real-time sync & authentication.
- Owned end-to-end development lifecycle from planning to CI/CD deployment via Codemagic and GitHub Actions.

Flutter App Developer (High-Security Platform)

10/2022 — 08/2023

Danesh Exchange Australia

- Engineered high-security foreign exchange platform supporting 60+ currencies with AES-256 encryption, processing 5,000+ daily transactions meeting Australian banking compliance.
- Implemented root detection, SSL pinning, dynamic OTP authentication, biometric Face ID/Touch ID login.
- Integrated APIs with 3,000+ Australia Post physical locations for nationwide cash pickup logistics.

Freelance Android Developer & Trainer

06/2018 — 09/2022

Independent Consulting & Education

- Provided freelance Android/Flutter development consulting for local and international clients.
- Designed E-PARKING IoT marketplace platform, winning the BASIS National ICT Award (Innovation Category).
- Built HOMEFOODZ marketplace platform (Banglalink IT Incubator 2.0 Champion).

Trainer (Mobile App Development - Android)

04/2018 — 05/2020

BASIS Institute of Technology & Management (BITM)

- Delivered Flutter & Android training under the National Skills Development Program (SEIP), mentoring 40+ trainees with hands-on, project-based learning.

EDUCATION

B.Sc. in Computer Science & Engineering
Daffodil International University

2014 — 2017

CGPA: 3.65/4.0. Focused on software architecture, algorithms, and AI systems. Final Year Project: AI Wall-E – Computer Vision & Voice-Controlled Autonomous Robot.

Android Application Development Certification (SEIP)
BASIS Institute of Technology & Management (BITM)

2018 — 2018

Specialized professional training covering advanced Android architectures, Java concurrency, and modern mobile UI/UX engineering.

TECHNICAL ARSENAL

Core Languages:	Python, Dart, PHP, JavaScript, TypeScript, Rust, C++, Java, Kotlin, Swift
AI & Agentic Systems:	LlamaIndex, LangChain, RAG Pipelines, Vector DBs (ChromaDB, Pinecone, Qdrant), Custom LLMs (GPT-4o, Gemini, Llama 3, Gemma 3, Phi-3), GGUF Quantization, OpenCV, PyTorch, YOLO, TensorFlow Lite
Mobile Engineering:	Flutter, Dart, Android (Java/Kotlin), iOS (Swift), Method Channels, Clean Architecture, Riverpod, Bloc, Provider
Architectural Frameworks:	Flutter, Laravel, Next.js, FastAPI, React 19, Node.js, Express, Tauri, Vue.js, Inertia.js
Databases & Spatial:	MySQL, PostgreSQL, PostGIS Spatial Analytics, SQLite, Redis, Firebase Firestore, Prisma ORM, Drizzle ORM, MongoDB
Security & Cryptography:	AES-256 Encryption, SSL Pinning, Root/Jailbreak Detection, Zero-Trust Architecture, RBAC, NFC Protocols, Biometric Auth
Infrastructure & DevOps:	Docker, AWS (EC2, S3, RDS, Lambda), GCP, Codemagic, GitHub Actions, Terraform, Linux Server Administration
Expert Tooling:	Git, Postman, Figma, WebSockets, WebRTC, WebGL

FLAGSHIP AI & AGENTIC SYSTEMS

Contragraviton (Agentic Process Orchestrator)
React 19 + Tauri 2 + FastAPI + LlamaIndex + Playwright

2026

Autonomous desktop AI orchestrator operating 13 native execution tools (filesystem indexing, regex grep, CLI terminals, diff patching, web research, browser subagents) with dual-path vector search and live SSE reasoning streams.

Krishok AI (Agricultural Intelligence)
Flutter + GPT-4.0 + Computer Vision + Bengali Voice

2025

Voice-first agricultural AI platform with single-tap Bangla voice interaction, localized crop diagnosis, weather alerts, and computer vision for rural Bengali farmers.

Agri-Llama (Quantized Agricultural LLM)
PyTorch + GGUF Quantization + llama.cpp

2025

Domain-specific Bengali agricultural LLM optimized for 2GB RAM edge devices, achieving 70% model size reduction with zero performance loss.

Echo AI (Local Digital Twin & RAG)
Gemma 3 4B + ChromaDB/LanceDB + Local GPU

2026

Privacy-focused on-device digital twin combining RAG vector search with local neural models for document intelligence without cloud dependency.

MChat Offline LLM (On-Device Mobile AI)
Android NDK + llama.cpp + Vulkan API + C++

2025

Native Android app running quantized LLMs directly on mobile devices without internet. Hardware-accelerated via Vulkan and NNAPI backends.

PersonaPlex AI (Speech-to-Speech) Python + Whisper + Coqui TTS + Real-Time Streaming End-to-end voice intelligence platform for low-latency speech-to-speech conversational AI with adaptive pitch, tone, and emotional resonance.	2025
Pocket Chef AI (Computer Vision Culinary) Flutter + YOLOv8 + GPT-4 + Laravel Computer vision ingredient recognition and generative recipe synthesis from camera snapshots of kitchen pantries.	2024

ENTERPRISE & IOT PLATFORMS

Tea Pest Intelligence Platform Flutter (Offline-first) + Next.js WebGL + PostGIS Enterprise agricultural GIS platform pairing offline mobile field surveys with interactive WebGL isometric 3D heatmaps and spatial analytics for tea plantations.	2026
McFTP - Enterprise Document OS TypeScript + Node.js + FTPS + Local LLM Local-first document operating system with zero-trust departmental isolation, automated OCR extraction, and private local LLM knowledge querying.	2025
KP Nexus (Boardroom Automation Hub) JavaScript + WebSockets + WebRTC + IoT Enterprise boardroom automation kiosk with zero-install wireless display streaming, one-touch conferencing, and cross-platform WebRTC casting.	2026
McDonald's Enterprise Digital Infrastructure Next.js + Node.js + TypeScript + WordPress Commercial web portal for McDonald Bangladesh showcasing agrochemical solutions, hybrid seeds, and nationwide depot logistics.	2025
Kamal Paterson Official AI Web Ecosystem Next.js + TypeScript + MySQL + Prisma + AI Assistant Corporate executive advisory gateway with conversational AI client consultation, strategic services showcase, and administrative briefing management.	2025
Real-Time Edge Foliar Vision Camera Module Flutter + TensorFlow Lite + NPU Acceleration Mobile edge computer vision app executing neural network inference on live camera feeds in network-isolated agricultural fields.	2026

FINTECH, MOBILE & MARKETPLACE PLATFORMS

Danesh Exchange Australia Flutter + AES-256 + Australia Post API Banking-grade foreign exchange platform handling 60+ global currencies with biometric authentication and 3,000+ Australia Post pickup locations.	2023
Tcard (NFC Virtual Payment) Flutter + NFC Hardware + Laravel Virtual smart card and contactless payment solution using on-device NFC chips for instant, secure merchant transactions.	2024
Porua.org (Secure eBook Platform) Flutter + Custom DRM + AES-256 Multilingual eBook distribution platform with hardware-bound digital rights management preventing unauthorized screen capture and export.	2024
E-PARKING (National ICT Award Winner) Android/Flutter + Laravel + IoT + QR Dual-app marketplace connecting drivers with private parking space owners via QR code scanning and IoT gate integration.	2018

HOMEFOODZ (Banglalink IT Incubator Champion) React Native/Flutter + Node.js + MongoDB Award-winning digital marketplace for home-based culinary entrepreneurs with real-time order dispatch and driver coordination.	2017
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A.I. Wall-E Specialist (Robotics & Vision) ESP32 + OpenCV + TensorFlow Lite + Android Intelligent robot with real-time computer vision, voice commands, tilt-to-drive gyroscope navigation, and autonomous obstacle avoidance.	2017
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AWARDS & RECOGNITION

National ICT Awards Winner (Innovation Category) E-Parking: Dual-sided IoT parking marketplace via dynamic QR protocols	2018
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Banglalink IT Incubator 2.0 Champion HomeFoodz: Scalable digital merchant marketplace platform with seed funding	2017
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Certified Technical Trainer & Mentor National Skills Development Program (SEIP) under BASIS / BITM	2018 - 2020
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CERTIFICATIONS & CREDENTIALS

SEIP Certified Mobile Solutions Architect BASIS Institute of Technology & Management (National Skills Development Program)	2018
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Advanced Android & Distributed Systems Specialization BASIS Institute of Technology & Management (BITM)	2018
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LANGUAGES

English (Professional Working Proficiency (C1 / Full Remote Collaboration))	Bengali (Native)
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