

Ronak Kosamia
4703310912 | Kosamiar@gmail.com
<https://linkedin.com/in/ronak-kosamia> | <https://ronakkosamia.github.io>

PROFESSIONAL SUMMARY

Principal Software Engineer with 13+ years of experience leading mobile, cloud, and AI/ML solutions across healthcare, automotive, retail, and banking.

Proven expertise in architecting and scaling cross-platform applications (Android, iOS, React Native, KMP) integrated with regulated systems, connected vehicles, and retail payment platforms. Adept at building HIPAA/FDA-compliant mobile health apps, AI-powered automotive features, and high-volume enterprise platforms.

Skilled in Kotlin, Swift, Golang, Python, and modern Java; cloud and DevOps (AWS, Azure, Kubernetes, Terraform, CI/CD); and observability (Prometheus, Grafana, ELK, OpenTelemetry).

Strong technical strategist and hands-on engineer with a track record of mentoring teams, driving innovation, and delivering secure, high-performance software at global scale.

TECHNICAL SKILLS

| Category | Skills |
|------------------------|--|
| Languages | Kotlin, Java, Swift, Objective-C, Python, Golang, JavaScript (ES6+), TypeScript, Rust, C++, Bash |
| Mobile Development | Android SDK, Jetpack Compose, Kotlin Multiplatform (KMP), iOS SDK (UIKit, SwiftUI), React Native (Expo/EAS, TypeScript, React Navigation), Flutter |
| State Management | StateFlow, SharedFlow, LiveData, Redux (Saga, Thunk, RTK Query, Redux Persist), MobX, Recoil, Zustand, Combine (iOS) |
| Frameworks & Libraries | Coroutines, RxJava, Dagger/Hilt/Koin, Retrofit, OkHttp, MotionLayout, Data Binding, Room, MLKit, CoreBluetooth, CoreML, TensorFlow Lite |
| AI/ML & Data | TensorFlow, PyTorch, Hugging Face, OpenCV, MLflow, Kubeflow, TFX, Spark, Airflow, Kafka, Redis, Elasticsearch |
| API & Data | GraphQL (Apollo Client, Federation), REST, gRPC, WebSockets, Google Protobufs, SQLite, PostgreSQL, MongoDB, DynamoDB, Oracle, MySQL |
| Cloud & DevOps | AWS (Lambda, S3, ECS/Fargate, DynamoDB, Aurora, API Gateway), Azure, GCP, Firebase, Kubernetes, Docker, Helm, Terraform, AWS CDK |
| CI/CD & Automation | Jenkins, GitHub Actions, GitLab CI, Fastlane, Gradle, Expo EAS, SonarQube, Detekt, Artifactory |

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|---------------------------------------|---|
| Testing & Debugging | Espresso, XCTest, Detox, Appium, Jest, Mockito, Robolectric, React Native Testing Library, Cypress, Flipper, Firebase Test Lab |
| Observability & Monitoring | Prometheus, Grafana, ELK Stack, OpenTelemetry, New Relic, Crashlytics, Datadog, Sentry |
| Web & UI | React.js (Vite, RTK Query, Tailwind CSS), Angular, Storybook, Styled Components, Figma |
| Security & Compliance | OAuth 2.0, OpenID Connect, JWT, SSO, HIPAA, GDPR, FDA/IEC 62304, ISO 13485 |
| Leadership & Agile | Scrum, Kanban, Confluence, JIRA, Cross-Functional Collaboration, Stakeholder Communication, Mentoring, Technical Escalation & Support |

EDUCATION

M.S., Computer & Information Systems Security — University of the Cumberland (2018)

B.S., Computer Engineering — Gujarat Technological University (2013)

CERTIFICATIONS

Microsoft Certified: Azure Solutions Architect Expert (2025–2026)

Google Associate Android Developer (2019–2020)

SAFe 4 Practitioner (2024–2025)

PROFESSIONAL EXPERIENCE

Medtronic, Minneapolis, MN

Principal Software Engineer/ ML Researcher – Neuromodulation Applications | April 2025 – Present

- Architected and developed **FDA-compliant Android and iOS apps** for connected neuromodulation and diagnostic devices, enabling secure BLE/Wi-Fi data exchange with real-time patient monitoring.
- Partnered with **firmware, regulatory, and clinical teams to validate Bluetooth connectivity**, telemetry pipelines, and OTA updates while ensuring HIPAA, GDPR, IEC 62304, and ISO 13485 compliance.
- Implemented secure **PHI handling** with AES/TLS encryption, multi-factor authentication, and biometric login to meet healthcare data protection standards.
- Built scalable mobile architectures (MVVM, Clean Architecture) with Kotlin Flows/Swift Combine, optimizing performance, background sync, and battery efficiency.
- Integrated **AI/ML-based risk detection models** and on-device analytics to deliver predictive patient insights without cloud dependency.
- Established **CI/CD pipelines** (GitHub Actions, Jenkins, Fastlane) with automated BLE device testing, UI/UX validation, and regulatory reporting.

- Monitored app performance and crash analytics (Firebase, Sentry, New Relic), ensuring high availability and patient safety.
- Mentored junior engineers in secure healthcare mobile development, led technical deep dives, and maintained internal standards documentation.

Tech Stack: Kotlin, Swift, BLE, CoreBluetooth, Jetpack Compose, Combine, Firebase, AWS, Azure, Jenkins, GitHub Actions, Fastlane, Sentry, HIPAA/FDA compliance frameworks.

Capital One, McLean, VA – Remote

Principal Software Engineer (AtWork Enterprise Mobile Platform) | Oct 2024 – April 2025

- Architected and delivered **AtWork mobile apps (Android, iOS, KMP, React Native)** supporting 8,000+ employees across workflows like PeopleFinder, FixIt, Parking, HR Help, and resource management.
- Designed modular, scalable architectures (MVVM, Clean Architecture, KMP shared logic), ensuring cross-platform feature parity and pixel-perfect UI/UX with Jetpack Compose and SwiftUI.
- Engineered secure **enterprise authentication** with OAuth 2.0, OpenID Connect, and SSO (Azure AD, Auth0, Google/Slack), integrating role-based access and compliance workflows.
- Implemented robust **offline-first capabilities** (StateFlow/SharedFlow on Android, Combine on iOS) with encrypted SQLite, enabling reliable use in low-connectivity environments.
- Optimized **mobile-cloud orchestration** with Firebase Cloud Functions, AWS Lambda, and GraphQL APIs, reducing latency by 35% and enabling real-time task automation.
- Developed backend-driven UI states and feature flagging for dynamic workflows, including Parking reservations, HR requests, and facility service automation.
- Built CI/CD pipelines (Jenkins, Fastlane, GitLab, Artifactory) with automated regression testing, static code analysis (SonarQube, Detekt), and multi-ABI builds.
- Enhanced **observability and performance** using Prometheus, Grafana, Crashlytics, and OpenTelemetry to monitor mobile health, stability, and incident response.
- Mentored engineers through code reviews, KMP training, and debugging sessions (ADB/LLDB), driving adoption of Kotlin best practices and clean async design.

Tech Stack: Kotlin, Swift, KMP, Jetpack Compose, SwiftUI, React Native, GraphQL, Firebase, AWS Lambda, Jenkins, Fastlane, Artifactory, SonarQube, OpenTelemetry

Cariad (Volkswagen Group), Mountain View, CA, Remote.

Sr. Software Engineer (SDV/EV Navigation & Climate Apps) | Sept 2024 – Dec 2024

- Led Android and cross-platform (KMP, React Native) development for Volkswagen's **Software-Defined Vehicle ecosystem**, focusing on EV routing, navigation, and climate control.

- Built **real-time EV charging station maps** with Kafka event streams, MapLibre, and gRPC/Protobuf, delivering live charger status (active, in-use, maintenance) with offline caching.
- Designed modular, reusable **SDKs (KMP, Rust, Kotlin)** for embedded and companion mobile apps, abstracting brand- and region-specific logic.
- Delivered secure offline access and encrypted caching with RoomDB, enabling seamless user experience in low-connectivity conditions.
- Partnered with firmware, backend, and validation teams to drive **system-wide feature launches** across brands and regions.
- Drove **ML-powered predictive diagnostics and battery health analytics**, operationalizing models within EV telemetry pipelines.
- Enhanced **performance and real-time UX** with advanced profiling, ensuring safety-critical responsiveness for in-vehicle systems.

Tech Stack: Kotlin, Jetpack Compose, KMP, Rust, React Native, gRPC, Protobuf, Kafka, RoomDB, AWS, Firebase, MapLibre, Jenkins, GitLab CI, SonarQube, Detekt

General Motors, Roswell, GA / Warren, MI

Principal Software Engineer (Mobile, Payments & Connected Services) | Jan 2023 – Sept 2024

Sr. Software Developer (Android & Embedded Systems) | Jun 2017 – Jan 2023

- **Led modernization of GM's MyBrand platform**, powering 20+ vehicle programs with services for scheduling, recalls, subscriptions, EV routing, rewards, and OTA diagnostics.
- Spearheaded **cross-platform SDKs** (Kotlin Multiplatform + Rust) and secure Swift/Kotlin libraries for in-app purchases, vehicle telemetry, and subscription provisioning.
- Designed scalable **GraphQL/REST APIs** and integrated Firebase + AWS Lambda for real-time vehicle data sync, cutting backend API load by 30%.
- Drove **Server-Driven UI (SDUI)** adoption, enabling remote UI updates, feature flags, and brand-specific personalization without app store releases.
- Developed **payment services** (Google Pay, Apple Pay, in-vehicle checkout), integrating tokenization and idempotent order orchestration to ensure secure, seamless transactions.
- Built **EV routing & SuperCruise Navigation** with HERE SDK and Kafka charger streams, delivering dynamic charging maps and route updates.
- Migrated legacy Java + RxJava components to **Kotlin + Coroutines/Flow**, modernizing async/event handling and improving maintainability.
- Implemented **Jetpack Compose and MotionLayout** for dynamic UI, reducing UI rendering issues and accelerating new feature delivery.
- Strengthened **security protocols** (OAuth 2.0, OpenID Connect, JWT), meeting enterprise and regulatory standards for vehicle-cloud communication.
- Deployed **observability & monitoring stacks** (Prometheus, Grafana, Crashlytics, OpenTelemetry), improving diagnostics and reducing critical crash rates.
- Partnered with OnStar, EV, and payment teams across US, LATAM, and China to align global platform rollouts, region-aware features, and compliance requirements.

- Mentored and led teams of 7–10 engineers, conducted performance reviews, and enforced coding standards, accelerating developer growth and product velocity.

Tech Stack: Kotlin, Swift, Rust, Jetpack Compose, GraphQL, Retrofit, OkHttp, Firebase, AWS Lambda, Kafka, HERE SDK, Jenkins, Fastlane, Artifactory, Prometheus, Grafana, Crashlytics, SDUI frameworks, OAuth 2.0, JWT.

Thinking Books LLC, Davis, CA

Principal Software Development Engineer (NDK/Embedded) | Jan 2017 – Jun 2017

- Built high-performance **Android NDK components** in C++/JNI, creating reusable libraries for embedded and mobile apps.
- Designed custom scripting tools that reduced project setup time by 75% and automated repetitive developer tasks.
- Profiled/debugged native code for memory and performance optimization across diverse devices.

Tech Stack: Android NDK, C++, JNI, Kotlin, Python, Bash

Washington Metropolitan Area Transit Authority (WMATA), Washington, DC

Sr. Mobile Application Developer (GIS/Transit Systems) | Dec 2015 – Jan 2017

- Designed and delivered the **Bus Stop Editor** and Transit Tracking apps, enabling WMATA staff to update stop data and routes in real time.
- Integrated **ESRI GIS mapping** into hybrid mobile and web apps, improving location accuracy and fleet navigation.
- Built cross-platform solutions (Ionic, Angular, Cordova) with offline-first capabilities for Android/iOS parity.
- Implemented real-time tracking, push notifications, and live route updates, improving rider satisfaction and transit efficiency.
- Automated CI/CD pipelines with Jenkins and Fastlane, reducing deployment time and improving release stability.

Tech Stack: React Native, Ionic, Angular, Cordova, ESRI GIS, JavaScript, TypeScript, Node.js, Firebase, AWS

FoodCrave / FoodNearU, San Francisco, CA

Senior Mobile Application Developer | Dec 2014 – Dec 2015

- Led development of **TriValley Food Delivery**, a cross-platform food ordering and delivery app.
- Integrated secure payments (Stripe, Google Pay) and real-time order tracking with Google Maps APIs.
- Built state management with Redux for efficient UI responsiveness and backend interactions.
- Reduced app response times by 25% through performance optimization and caching.

Tech Stack: React Native, Angular, Ionic, Redux, Node.js, REST APIs, Google Maps, Stripe

Polaris, Surat, India

J2EE Developer | Aug 2010 – Jul 2013

- Developed and maintained **ERP system modules** for finance, HR, supply chain, and CRM.
- Built RESTful APIs and optimized SQL queries, reducing processing times by 30%.
- Collaborated with database and QA teams to ensure data integrity and reliability across modules.
- Deployed on Apache Tomcat, contributing to successful enterprise rollout.

Tech Stack: Java, J2EE, REST APIs, SQL Server, Oracle, JavaScript, jQuery, AJAX
