Kaleb Kircher

Staff Android Engineer

Experienced mobile applications and backend software engineer with over ten years of specializing in Android, iOS, and Spring Boot/AWS. Proven track record of delivering impactful applications across agriculture, aerospace, telematics, and motorsports, with over 10,000,000 downloads and 10,000 years of runtime on applications I've built or contributed to.

Key Achievements

- Crash Reduction: Increased crash-free rates from 52% to over 99%.
- App Optimization: Rewrote OpenGL-based render engine, improving performance by 200x.
- Modernization: Migrated legacy systems to Kotlin/Jetpack Compose, adopting Clean Architecture and MVVM frameworks.
- Scalable Design: Designed an ETL pipeline leveraging AWS (SQS, Glue, Flink, SageMaker, Quicksight) to process diagnostic data for 300,000+ daily users.
- Autonomous Systems: Delivered path-optimized autonomous steering for agricultural equipment using RESTful APIs, Kotlin, and Spatialite.

Professional Experience

2021 - Present
PTx Trimble | Washington State

Staff+ Engineer

- Lead Android application development for autonomous steering and control systems in agriculture
- Refactored large Java-based applications to Kotlin-based modular architectures.
- Converted XML-based navigation to Jetpack Navigation and Compose.
- Designed hybrid push/pull data synchronization with Room, RESTful APIs, and MQTT.
- Developed novel binary file-based time-series databases for high-scale event logging.

2017 - 2021
Trimble Navigation | Westminster, CO

Staff Engineer

- Modernized hundreds of Android Activity-based views to MVVM-based architecture.
- Improved rendering engine performance by refactoring to VBOs.
- Increased app reliability, taking crash-free rates from 30% to over 99%.

Contact

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Email
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Location
Seattle, Washington

Technical Skills

Programming Languages
- Kotlin, Java, C++, JNI, KMP

Mobile Development
- Android, Jetpack Compose, iOS

Backend & Databases
- Spring Boot, RESTful APIs, GraphQL, RPC, SQLite, Spatialite, Postgres, Hibernate, Room, DynamoDB, Redis, MQTT, S3, Minio

Cloud/DevOps
- AWS (EC2, Lambda, Flink, Glue, SageMaker, SQS), Firebase (Auth, Crashlytics, Realtime, Analytics)

Frameworks/Architectures
- Clean Architecture, MVVM, MVI, Modular Monolith, Service and Mircoservice

Tools
- Git, Fastlane, CircleCI, Fastlane, Gradle, Maven

Education

Computer Science (BS)
Regis University, Summa Cum Laude

IT Administration (BS)
Regis University, Summa Cum Laude

2016 - 2017
Vorto.ai l Denver, CO

Principal Mobile Engineer

- Designed IoT-based breadcrumb tracking for off-road vehicles.
- Automated billing and work order processing systems for supply chain efficiency.
- Built CI/CD pipelines with FastLane and GitFlow for app store integration.

2015 - 2016
Shotover Systems l Boulder, CO

Mobile Lead Engineer

- Developed Android/iOS apps for real-time augmented reality mapping and aerospace camera systems.
- Integrated low-latency H264 video streaming using MQTT and codec APIs.

2011- Present
Tracqi Technology

Founder

- Built motorsports apps (e.g., OBD diagnostic tools, lap timers) for Android/iOS with 10,000+ downloads.
- Leveraged Bluetooth/WiFi for vehicle diagnostics and performance measurement.
- Utilized AWS (EC2, S3, Lambda) for app infrastructure.