Aleksei Volodin

Senior Android Engineer · AI Native Engineer

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SUMMARY

Senior Android engineer and AI Native Engineer with 20+ years in software and 12+ on Android. Key contributor to two high-traffic Chilean banking apps with more than a million installs each. Builds on-device AI in the open with Knotwork, a local-first agent for Android, developed spec-first with coding agents under human review. Has shipped companion apps for BLE and Wi-Fi hardware, keeps crash-free sessions above 99% across releases, and has worked in distributed teams for 15 years.

EXPERIENCE

Senior Android Developer, Muruna
Jun 2022 – now

Remote, Santiago, Chile. FinTech, two retail banks

- New features across retail-banking Android modules, with Clean Architecture, MVVM and Hilt or Dagger.
- API migrations and networking refactors on Retrofit and OkHttp, keeping backward compatibility.
- Resolved defects from internal and external stakeholders through structured Kotlin and Java debugging.
- Maintained unit and UI tests with JUnit and Espresso, and static checks with Detekt and Ktlint.

Senior Android Developer, MOBDEV
Feb 2021 – Jun 2022

Remote, Santiago, Chile. FinTech, a retail bank

- Android features in Kotlin with Jetpack Navigation, WorkManager, Retrofit and OkHttp.
- Features and refactors within an established MVI architecture.
- Worked with Product and UX on key flows: sign-in, onboarding and payments.
- Diagnosed issues with logs, crash reports and profilers, then shipped targeted fixes across modules.

Senior Android Developer (contract), Swing AI & LifeJourney
Jul 2017 – Mar 2020

Remote. One team across both contracts

- Built and evolved Android applications with a focus on reliable delivery.
- Worked with design, backend and QA, with close attention to UX and performance.
- Created and maintained unit and UI tests around critical flows.

Lead Android Developer, Knotable
Sep 2014 – Jan 2017

Remote, for a New York company

- Designed and built two Android applications and led a team of three engineers.
- Improved reliability and performance through targeted refactors and systematic debugging.

Senior Android Developer, Freelance
Sep 2011 – now

Remote, Santiago, Chile

- More than 20 Android apps: streaming media, a layered image editor, live video, project management, chats, readers, enterprise clients, inventory tools.
- End-to-end delivery from requirements to release.
- Research and integration of on-device AI and agentic development workflows.

Software analyst and engineer, 1C · C++ · SQL
2003 – 2012

Earlier career, condensed

SELECTED PROJECTS

Knotwork

The model runs on the phone through LiteRT-LM, and every request goes through a pipeline you can read and change. By default a risky action waits for your confirmation.

Stars 55 Commits 2097 Merged pull requests 619 Tagged releases 22 Latest release 0.15.0 License Apache-2.0

GitHub Google Play F-Droid

lot-map

Open-source mod for Claude Code: a live map of the agent's work, drawn beside the chat. Idea and decisions by Aleksei, code by his AI agent.

Stars 1026 Forks 114 Merged pull requests 102 Commits 104 Latest release 0.12.0 License MIT

GitHub

Colored Seeds

Match pairs of colored seeds, clear rows and empty the board. A long-running game, rewritten and relaunched as 3.0 in 2026.

Downloads 50K+ Last update Oct 31, 2026
Google Play Site

AI NATIVE ENGINEERING

Coding agents work across the whole SDLC. The engineer owns specification, architecture and release decisions.

Spec-Driven Development (SDD): Each task starts with a written specification: affected classes, interfaces, tests and files. Implementation begins only after it is approved.

AI-Driven Development (AIDD): Agents carry research, implementation, tests, review and refactoring through pull requests. Official documentation is checked before any library or API is used.

Human-in-the-loop gates: Stage gates at plan approval, design handoff, pull-request review and release. Irreversible actions require explicit human approval.

Context engineering: An agent manifest as the source of truth, path-scoped rules, a generated code map, and long-term memory retrieved at session start.

Multi-agent orchestration: Subagents for parallel research and independent code review, reusable commands and skills, tools connected over MCP.

Guardrails as code: Pre-execution hooks on shell, git and pull-request operations. An LLM gate rejects commits and pull requests whose claims name no evidence.

Agentic code review: The agent re-reads the real diff as a reviewer against a checklist. Each defect gets a regression test, and the pass repeats until it finds nothing new. A human review follows.

CI quality gates: Detekt, Ktlint, Android Lint, a 75% Kover coverage floor, Konsist architecture tests, Roborazzi screenshot regression and instrumented tests.

ADR and docs as code: Architecture Decision Records for every significant decision. Documentation changes ship in the same pull request, with link checks in CI.

Release engineering and supply chain: Phase integration branches keep main releasable. Dependency verification with PGP and SHA-256, CI actions pinned to commit SHAs, secret scanning.

SKILLS

Android: Kotlin, Java, Android SDK, Jetpack Compose, Architecture Components, Coroutines, Flow, Retrofit, OkHttp, WorkManager, Room, Navigation, Hilt, Dagger, Koin, RxJava, WebSocket, performance optimisation

On-device AI: LiteRT, LiteRT-LM, Koog, AppFunctions Jetpack, local LLM integration, privacy-first inference

AI Native Engineering: Spec-Driven Development, AI-Driven Development, agentic SDLC, context engineering, multi-agent orchestration, human-in-the-loop gates, guardrails as code, MCP, prompt engineering; Claude Code, GitHub Copilot, Gemini CLI

Testing and QA: JUnit, Espresso, UI Automator, Mockito, MockK, Detekt, Ktlint, CI test pipelines

IoT / BLE: GATT, connection reliability, background sync, OTA; UV sterilisers, smart locks, e-scooters

Services and data: REST, JSON, XML, Firebase, AWS, SQL, SQLite, Realm, MongoDB

CI/CD and tools: Gradle, GitHub Actions, Bitrise, Jenkins, Android Studio, IntelliJ IDEA

EDUCATION AND LANGUAGES

Education: BS in Computer Science, Serpukhov Technical College, 2000–2003

Certification: GitHub Copilot, Microsoft, October 2026, valid until October 2028; Security Skilled, 2025

Languages: English, fluent. Spanish, fluent. Russian, native.