

Edwin Knuth

Senior Staff Software Engineer · On-device AI · Product Engineering · Observability
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SUMMARY

Senior staff product engineer. A decade of observability and platform work at New Relic, then the capture frontend of an FDA-cleared medical imaging system at Overjet. I ship reliability into products under real production pressure, and lately I build applications that run AI entirely on the device. I was in the core engineering group that took Overjet's Iris system to FDA 510(k) clearance, and I drove the offline resilience behind its 99.5% session finalization rate. At New Relic I shipped LLM-powered features to enterprise customers in 2023, before most teams had any in production. I work end to end and mentor the engineers around me.

CORE SKILLS

Frontend and full-stack (React, TypeScript, JavaScript, PWAs) · On-device / edge AI (Whisper, WhisperKit, ONNX, small-model orchestration) · Observability (OpenTelemetry, Grafana, Loki) · Backend reliability (circuit breakers, rate limiting, caching) · C# / .NET (TWIN device integration) · iOS (Swift, SwiftUI), Android (Kotlin) · Python · AI-augmented engineering (Claude Code, agentic workflows) · Mentoring and technical leadership

SELECTED PROJECTS (ON-DEVICE AI)

- **Earshot**, an open-source on-device transcription SDK. One Kotlin core drives iOS (WhisperKit) and Android (ONNX). Cut Android peak memory 37% (367MB to 230MB); measured 8.38% word error vs 14.97% for the platform recognizer on the same device.
- **Sitewinder**, an Android app composing Whisper ASR, MiniLM embeddings, and Gemma 3 1B fully on device, with retrieval chat over your own video library.
- **Pencil Count**, a local 12B vision pipeline over 406,769 scanned ballots, a six-stage funnel that reconciled within 1.4% of official county totals. Open source.
- Shipped watch apps to the App Store and Play Store; run Code to Muscle LLC (registered for federal SBIR/STTR work).

EXPERIENCE

Overjet, Senior Staff Software Engineer · dental AI

Mar 2024 – Aug 2026

- Shipped the Iris Intelligent Imaging System capture frontend through **FDA 510(k) clearance** (K253930), Overjet's first clearance in image capture and PACS.
- Built offline-mode resilience so capture sessions complete through backend outages, driving a **99.5% session finalization rate**; converted the app to a PWA to get there.
- Scaled the Iris capture product from **one pilot clinic to thousands of clinics**.
- Resolved critical instability for major enterprise clients by re-architecting backend status checks and adding **circuit breakers and rate limiting**, making a fragile system hold under high load without manual intervention.
- Fixed bugs in **C# / .NET TWIN integrations** for intraoral sensor capture, resolving vendor-specific deviations from the spec that broke acquisition on real clinic hardware.
- Stood up the team's **observability stack** (OpenTelemetry, Loki, Grafana) and built dashboards the support team adopted.
- Led the remote management and monitoring initiative that enabled the enterprise support strategy.
- Mentored teammates on AI-assisted development as lead engineer for the capture frontend.

New Relic, Staff Software Engineer · observability platform, Logging

Jan 2022 – Feb 2024

- Shipped **two LLM-powered features** in New Relic AI for the Logging product: error analysis on log lines and automatic generation of parsing expressions, in production for enterprise customers in 2023.
- Rearchitected data fetching across Logging UI components to meet **performance SLOs** and cut query timeouts on large datasets.

New Relic, Lead Software Engineer · APM

Jan 2019 – Jan 2022

- Directed the team that rebuilt APM's most-trafficked pages, the company's core product, on the modern UI platform, retiring legacy tech debt; the rebuild was cited in closing enterprise deals.
- Took **Lookout/Spyglass**, a telemetry change-detection platform and UI, from incubator concept to production in a single quarter.
- Designed a **query abstraction layer** so one UI codebase served applications instrumented with New Relic agents, OpenTelemetry, and other providers.

New Relic, Senior Software Engineer · APM and Browser

Jun 2014 – Jan 2019

- On the team that broke up the Ruby monolith; built the **first APM UI features on modern JavaScript frameworks**.
- Built the first event-based (rather than metric-based) filtering and faceting UIs.
- Wrote declarative data-fetching chart components later adopted by the **company-wide UI platform**.
- Shipped Browser product features including GA of the **Single Page Application monitoring UI**.

Earlier experience

- **Point 97 (Ecotrust)**, Developer + Architect: built geosurvey, a multi-platform survey system used for fisheries data collection in the US Virgin Islands and Solomon Islands.
- **Ecotrust**, Senior Front End Developer: solo developer of Digital Deck, an iPad electronic logbook for Oregon crab fishermen.
- **Decipher, Inc**, Senior Software Engineer: survey platform processing 150,000+ surveys per week.
- **Contract database and systems work**: built full-text whois search over 200 million domains at LegitScript; DBA and CI infrastructure for Aquameta and WordStream.
- **State of Alaska**, Database and GIS Manager, Dept. of Environmental Conservation: led the state Air Quality System migration from Oracle to SQL Server.