Tyler Calderone

Senior Engineering Leader · Systems & Product Delivery

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Boulder, CO

Systems-minded engineering leader who shipped visionOS from 0 to 1.0 through 3.0, building a 30-person organization along the way. Deep expertise in low-latency real-time systems (C/C++, Metal, XPC), multi-process IPC, and networked client-server architectures. Proven ability to move fast on large-scale efforts — standing up new teams, shipping ambitious features on tight timelines, and iterating across major releases. Increasingly focused on the intersection of native applications and AI — exploring LLM integration via SSE and Model Context Protocol, and actively incorporating AI-augmented workflows into daily engineering practice.

EXPERIENCE

Engineering Manager — Apple, Vision Products Group (System UI)

Dec 2018 – Present

Boulder, CO

- Built visionOS System UI from inception (Control Center, Notifications) with a 3-person team; grew to an organization of nearly 30 engineers and managers, shipping continuously from the platform's 1.0 debut through 3.0 and beyond.
- Served as the directly responsible individual for the end-to-end delivery of multiple visionOS features — owning technical direction, cross-functional alignment with design and product leadership, milestone commitments, and final ship decisions.
- Established engineering culture and team processes from scratch: defined technical standards, hiring criteria, code review practices, and on-call rotations as the organization scaled from a small prototype team to a multi-team pillar.
- Designed the "sub-shell" architecture — a generics-based SwiftUI API for type-safe scene state management — subsequently adopted platform-wide across Darwin systems.
- Directly responsible individual for Hand UI in visionOS 2: drove architecture, staffing, and delivery while personally implementing C++ in the system render server to consume hand-pose estimates at sub-frame latency, paired with SwiftUI and CoreAnimation annotations for out-of-process animations under strict performance budgets.
- Shipped Mac Virtual Display Ultrawide (visionOS 2.2): built a launch agent in C with libxpc for low-latency IPC between distributed system processes, and authored Swift overlays with swift_name overrides to provide ergonomic client interfaces.
- Simultaneously served as the directly responsible individual for two flagship cross-functional initiatives in a single release cycle (iPhone Integration, macOS Spatial Rendering); coordinated delivery across multiple teams while contributing directly — assertion-based tracking APIs, automated test dashboards, and a Metal-based test harness enabling third-party API validation.

Software Engineer — Apple, Accounts & Authentication

Jun 2015 – Nov 2018

Cupertino, CA

- Debugged and resolved memory and performance bottlenecks across multi-process, networked systems using XPC, Instruments, and custom diagnostics tooling — building familiarity with client-server communication patterns and process lifecycle management.
- Architected public and private frameworks following Cocoa conventions, designing extensible APIs that supported multiple release cycles of iterative improvement.
- Built unified Apple ID settings using protocol-oriented programming to coordinate state across multiple client services and system daemons.
- Introduced Swift and unit testing to legacy Objective-C codebases; modernized headers with nullability annotations and lightweight generics.

Technical Lead — JibJab Bros. Studios

Jun 2012 – Jun 2015

Los Angeles, CA

- Built a real-time 2D GPU rendering engine with OpenGL ES 2.0 and GLKit supporting live video compositing and processing on mobile devices.
- Designed synchronized server (PostgreSQL) and client (SQLite/Core Data) data layers for offline-first content delivery at scale.

PATENTS — 11 patents (7 granted, 4 pending)

- System and Method of Representations of User Interfaces of an Electronic Device Jun 2025
- Gaze-Based Control Dec 2025
- Virtual Anchoring Systems and Methods for Extended Reality Sep 2025
- Multi-Device Continuity for Extended Reality Systems May 2025
- Digital Assistant for Handsfree Notification Management Mar 2025
- Physical Companion Devices for Extended Reality Systems Jan 2025
- Adaptive User Enrollment for Electronic Devices Mar 2023

- ○ Presentation Effects in Mixed Reality Environments pending
- ○ Interacting with System UIs in 3D Environments pending
- ○ Robust User Presence Detection pending
- ○ Automatic Display Adjustment pending

SKILLS

SYSTEMS & LOW-LEVEL

C · C++ · Swift · Objective-C · Metal · OpenGL · XPC · GCD

ARCHITECTURE & FRAMEWORKS

API Design · SwiftUI · UIKit · Foundation · Network.framework · Multithreading · Multi-Process IPC · Client-Server Architecture · CoreAnimation

AI & TOOLING

LLM Integration · Model Context Protocol · SSE Streaming · Agentic Workflows · Native LLM Clients · AI-Augmented Development

INFRASTRUCTURE & WEB

PostgreSQL · REST APIs · Ruby on Rails · JavaScript · Git · ZSH