

Senior product engineer who ships complete products: interactive 3D graphics on the web at Apple and HOVER, and production AI agents, most recently a voice-first assistant for iPhone and Apple Watch now in public beta.

EXPERIENCE

Independent Software Engineer Oakland, CA · 2023–present

Consulting and product work across AI systems, interactive graphics, and iOS

- Built Stray (stray.robot.yoga), a voice-first AI assistant for iPhone and Apple Watch: SwiftUI apps, a FastAPI backend on Cloud Run, and a fast conversational agent that hands harder work to Claude Code. Solo project, now in public beta on TestFlight with self-serve onboarding and Stripe billing
- For a client’s conversational AI coach, built the behavioral test harness: simulated user conversations scored by LLM judges, model comparisons, and a regression catalog that gated every release
- Consulted on Circuit.ly, a multiplayer circuit-authoring tool, bridging the React front end and the WebGL graphics layer

Apple — Senior Software Engineer Sunnyvale, CA · 2021–2022

Visualization tools for autonomy research

- Engineered interactive visualization tools with Three.js and React for rapid debugging and exploration of large-scale autonomy logs and simulations
- Contributed to a high-performance on-demand rendering system with custom shaders and geometry optimization to minimize draw calls in complex scenes
- Implemented “time travel” features for inspecting detailed motion plans, branched agent predictions, and object trajectories

HOVER — Senior Software Engineer San Francisco, CA · 2018–2021

Browser-based 3D reconstruction of buildings from photos

- Architected and delivered a suite of browser-based 2D/3D authoring tools using Three.js and React for high-precision interactions in building reconstruction
- Cut operator task time by several minutes per job through optimized 2D/3D picking and parametric modeling in the human input pipeline
- Built experimental tools for the R&D effort to automate photo-to-3D reconstruction: camera calibration, landmark correspondence, and raycast-based measurement of features like gutters and downspouts from the model geometry
- Led adoption of a GraphQL API that decoupled the React frontend from the Rails backend
- Mentored engineers across teams in interactive graphics and computational geometry

Early Career 2015–2018

- Built iOS and Android apps in React Native at startups including Woebot, the AI mental-health chatbot
- Taught creative technology, VR, and projection mapping at Gray Area, San Francisco

SKILLS

LANGUAGES

TypeScript, Swift, Python, C++ , SQL

GRAPHICS & FRONTEND

Three.js, WebGL, WebGPU, React, SwiftUI, shaders (GLSL · WGSL · Metal)

AI SYSTEMS

Claude & Gemini APIs, agent orchestration, MCP, LLM evals & judges, speech & TTS pipelines

SHIPPED RECENTLY

FastAPI, Postgres + pgvector, GCP / Cloud Run, Node.js, Temporal, LaunchDarkly, Stripe, Docker

EDUCATION

Hack Reactor, San Francisco
Software Engineering Immersive, 2015

Columbia College Chicago
B.A. Audio Arts & Acoustics, 2010