Aaron Hong

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Education

University of Southern California
B.S. in Computer Science Games
August 2013 - May 2017

Skills

Languages: TypeScript, JavaScript, Kotlin, Java, C#, C/C++
Web & Cloud: React, Next.js, Node.js, WebRTC, AWS
Mobile & Desktop: Android, Jetpack Compose, Tauri
Engines & Graphics: Unity, Unreal, Three.js, Pixi.js, WebGL
Design & Hardware: Figma, Blender, Fusion 360, EAGLE
Tools: Git, GitHub Actions, Vitest, JIRA

Interests

PC Gaming
Jazz Bass
Mechanical Keyboards
Ping-Pong
VOCALOID Music

Work Experience

Amazon - Software Development Engineer II (Android) **May 2020 - July 2025**

- **Led end-to-end technical design** for Amazon Kids features, defining full-stack architectural requirements and negotiating API contracts with backend teams to ensure scalable implementation.
- **Directed incident response for high-severity production issues**, using telemetry to isolate cross-stack failures and coordinating with backend service owners to expedite resolution.
- **Expanded engineering scope beyond mobile** by contributing directly to backend AWS microservices via "away team" initiatives, deploying server-side logic to unblock critical-path features.
- **Migrated legacy UI to Jetpack Compose**, significantly improving rendering performance and developer velocity.

Pinscreen - Software Engineer (Front-End / Application) **February 2018 - January 2020**

- **Led development of the flagship iOS demo application** in Unity, turning proprietary computer vision research into a consumer-facing app that generates photorealistic 3D avatars from a single selfie.
- **Engineered mesh processing and face-tracking integration** in Unity and UE4, writing an .obj parser with topology remapping, polycount reduction and glTF export, and native C++ plugins that drive avatar blendshapes.

Mild Beast Games - Co-Founder and Game Developer **June 2015 - February 2018**

- **Shipped the BAFTA-winning title *AT SUNDOWN: Shots in the Dark*** on Steam, PS4, Xbox One, and Switch, driving the full development lifecycle and technical compliance with publishing partners.
- **Built the game's core systems and tools**, including shader-driven stealth visibility, combat, enemy AI with state machines and pathfinding, a proprietary level editor, rope rendering and screen-space fluid simulation.

Other Projects

n.ot.e - Creator **July 2026 - Current**

- **Built a real-time collaborative beatmap editor** for osu!taiko in TypeScript and React that syncs edits peer-to-peer through a Yjs CRDT over WebRTC and runs on web, desktop and mobile (Tauri).
- **Engineered a GPU-accelerated Pixi.js renderer** with custom WebGL/WebGPU shaders and spectrogram and waveform timing views, plus a lossless .osu parser that round-trips files byte-for-byte.
- **Designed a parametric expression language** for scroll-speed curves, an osu!stable gameplay simulation verified in CI against real scores, and a browser extension that syncs review drafts with the osu! website.

Synth Labs - Founder **March 2022 - Current**

- **Founded and scaled a consumer electronics business**, shipping 2500+ custom peripherals, including a keyboard, macropad and original keycap profile, with PCBs in EAGLE, CAD in Fusion 360 and C firmware on QMK.