

Professional Profile

Staff Software Engineer with 25 years of experience in C++ development, SDK architecture, and cross-platform systems for Android, iOS, macOS, Linux, and Windows. Proven track record delivering high-performance, concurrent C++ applications and developer tools, including the Firebase C++ SDK. Experienced in debugging and profiling complex cross-platform systems, guiding teams, and ensuring reliability at scale.

Career highlights include creating and scaling the Firebase C++ SDK and Unity integration, leading a major transition from Google's internal build systems to an open-source GitHub environment, and influencing API standards across multiple SDKs and platforms. Recognized for developer-first design and a collaborative approach that enables teams to deliver impactful tools.

Key Achievements

- Created the **Firebase C++ SDK**, a cross-platform SDK for Android, iOS, macOS, Linux, and Windows, enabling developers across platforms to integrate Firebase backend services. Expanded reach via Unity integration for the world's most popular game engine.
- Spearheaded **open-source transition** from Google's ad-hoc build environment to public development on GitHub, improving transparency, developer adoption, and external contributions.
- Contributed to **API design and standardization** across multiple platforms (iOS, Android, JavaScript, Unity), influencing developer experience for millions of users.
- **Co-authored the Google C++ for Games Style Guide**, defining coding standards and best practices adopted across game-related SDK teams.
- Implemented **multi-threaded C++ systems** across mobile and desktop SDKs, optimizing performance and stability under concurrent workloads.
- Diagnosed and resolved complex cross-platform integration issues impacting performance and reliability, improving **product excellence and developer satisfaction**.

Skills

- **Languages:** C++, C#, Java, Python, JavaScript, Lua, Perl, Assembly (ARM, Z80, x86)
- **Platforms:** iOS, Android, macOS, Windows, Linux (embedded & desktop), Unity, Playdate
- **SDK & API Development:** Cross-platform SDKs, API design/reviews, developer-first UX, coding standards, open-source workflows
- **Tools:** Git/GitHub, GDB, profilers, ASan/MSan/TSan, CI/CD (GitHub Actions), Firebase Test Lab, Android Studio, Xcode, Visual Studio, CMake
- **Specialties:** Cross-platform integration, concurrent programming, debugging complex systems, performance optimization, GDPR-compliant SDKs, developer demos & sample apps
- **Leadership:** Mentorship, architecture reviews, cross-functional collaboration, event co-organization

Professional Experience

Google

Staff Software Engineer

Firebase Games SDKs

June 2013 – July 2025

January 2022 – July 2025

Sunnyvale, CA

- Drove **API design and review** processes across multiple platforms, ensuring consistent, developer-friendly experiences for millions of end users.
- Advised cross-functional teams on **cross-platform SDK design** best practices, influencing technical decisions across multiple product areas.
- Researched and piloted **AI-assisted development workflows**, delivered recommendations to SDK teams, and authored a Firebase-wide best practices guide with accompanying tools.
- Co-organized the **Google Game Summit**, an internal networking and knowledge-sharing event bringing together Google teams working on game-related technologies.

Senior Software Engineer

Firebase Games SDKs

March 2016 – December 2021

Sunnyvale, CA

- Led development of the **Firebase C++ SDK**, architecting cross-platform support for Android, iOS, tvOS, macOS, Linux, and Windows, enabling thousands of developers to integrate Firebase services seamlessly.
- Contributed to **Firebase Unity SDK** and other platform integrations, expanding accessibility to the world's most widely used game engine.
- Designed and created the Unified Messaging Platform (UMP) C++ SDK, enabling mobile developers to ensure **GDPR and privacy standards compliance** in their C++ apps.
- Orchestrated the migration from Google's internal build environment to open-source development on GitHub, introducing GitHub Actions and Firebase Test Lab for automated integration testing, an effort which **won an internal Google technical impact award**.
- Developed and maintained the Firebase SDKs on Desktop to enable local testing and desktop integrations, improving developer productivity and adoption rates.
- Improved product reliability by leading bug triage and prioritization, ensuring timely resolution of critical issues.
- Led quarterly and annual **OKR planning** for the team, aligning engineering goals with broader product strategy.

Senior Software Engineer

Fun Propulsion Labs at Google

September 2014 – March 2016

Mountain View, CA

- Created Zooshi, a **sample game** built with the Android NDK to demonstrate modern C++ techniques, used in developer outreach and training.
- Designed and delivered **C++ libraries and sample code** for Android game development, enabling developers to adopt best practices for high-performance mobile games.

Senior Software Engineer

Local Data Quality

June 2013 – September 2014

New York, NY

- Improved accuracy of Google Maps local listings by building Flume C++ pipelines to process data on newly-opened businesses using **machine learning and data analysis techniques**.
- Developed and maintained pipelines for ingesting large-scale data feeds of over 15 million U.S. businesses into internal systems, ensuring accuracy and scalability.

Earlier Career

Arkadium

Manager of Game Programming

Senior Software Engineer

Games for Windows

April 2011 – June 2013

February 2012 – June 2013

April 2011 – February 2012

New York, NY

- **Technical lead** on a suite of Windows 8 games published by Microsoft Game Studios, including Microsoft Solitaire Collection, Minesweeper, Mahjong, and Taptiles.
- Led development of **in-box Solitaire** for Windows 8 Consumer Preview and Store, written in C# with SharpDX and DirectX.
- Designed and built core engine and social game libraries, enabling the company's expansion into desktop and mobile development.
- Managed and mentored programmers across multiple divisions, established C# coding standards, and led architecture reviews.
- Created prototypes using C#/XNA, HTML5/JavaScript, and C++/DirectX.

Powerhead Games

Technical Director

Lead Programmer

Programmer

Game Development Studio

February 2001 – April 2011

January 2007 – April 2011

March 2002 – December 2006

February 2001 – February 2002

New York, NY

- Led the development of **20+ shipped titles** for Nintendo DS, Game Boy Advance, and Game Boy Color, overseeing game architecture, tools, and technical direction.
- Wrote internal samples and demos for additional platforms including iOS, Nintendo Wii and PlayStation Portable.
- Delivered optimized C, C++, ARM, and Z80 assembly code for handheld consoles, achieving high performance under strict hardware constraints comparable to embedded systems.
- Guided cross-disciplinary teams to consistently deliver high-quality games under strict schedules and hardware limitations.

Personal Projects

- **Cranky Cove** – Solo-developed puzzle game for the Playdate handheld, released on Playdate Catalog (Feb 2025).
- **Hello Yellow** – Voice chat app for Playdate featuring a custom C audio engine and Firebase REST backend, currently in development.
- **pd-achievements** (contributor) – Open-source achievements library for Playdate, adopted by over 25 released games.

Education and Certifications

- **B.S. Computer Science**, NYU Polytechnic University, Brooklyn, NY 2001