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Summary

Software manager, engineer, tech lead and co-founder. Experienced with C++, JavaScript (ES6, using React.js, TypeScript), Python, Ruby on Rails, Objective-C/iOS development, Java/Android development, C#, Unreal Engine, FMOD and Wwise (audio middleware).

Experience

2020-present   *Cruise*   San Francisco, CA
Staff Tech Lead Manager, Simulation

- My teams have built sensor simulations and driving scenario authoring tools for Cruise's current and future autonomous vehicles.
- Led team efforts to improve web editor performance by 100x, unblocking the ability to inspect and edit complex driving scenarios converted from recorded driving events.
- Integrated simulation platform with ML-based data mining tool and ChatGPT-like interface in order to quickly build test suites from human-described road events and objects.
- Established JavaScript and TypeScript coding standards for company in collaboration with other departments.
- Boosted productivity across company by porting GitHub tree viewer feature to browser extension used by all employees, expanded feature to "commits" pages as well (2 years before GitHub added their own tree viewer).

2019-2020   *Ubiquity6*   San Francisco, CA
Engineering Manager, Studio

- My full-stack team built a cloud-based 3D game editor with importing, publishing, play-in-editor and scripting support, all within the delivery date.
- Audited and streamlined our multi-platform game engine and API, reducing scaffolding code for new projects by 75%.

2017-2019   *Linden Lab*   San Francisco, CA
Tech Lead, Sansar

Sansar is a VR-ready network of virtual worlds built with its own C++ game engine, including a 3D game editor and avatar editor.

- As tech lead across our content creation teams, I conducted developer interviews and user tests, discovered and championed the need for (and implemented) multi-object property editing, parent-child relationships, and other user-facing features for our game editor.
- As audio lead, I added the ability to stream live audio, preview-in-editor, obstruct/occlude sounds by walls and static objects, and added a suite of audio functionality to our script API.

2013-2017   *Doblet, Inc.*   San Francisco, CA
Engineering Manager

- Coordinated engineering dependencies between Android / iOS clients and Rails backend.
- Designed and developed iOS app that mediates between server and our charging devices.
- Designed analytics strategy to help us evaluate on-boarding options and pricing models.

2013-2017   *2K Games*   Novato, CA
Senior Software Engineer, Hanger 13 Studio

Titles: Mafia 3 (plus DLC)
Platforms: PC, XboxOne and PS4

- Developed and executed migration strategy to Wwise audio middleware, decoupling low-level audio concepts from C++ game engine in favor of Wwise's event-based abstractions.

- Reconciled the needs of our content creators with those of product and engineering, e.g. space and CPU budgeting, tooling updates and pipelines, source control, documentation.

2006-2013   *LucasArts*   San Francisco, CA

Titles: Star Wars: The Force Unleashed 1 and 2 (plus DLC), 1313 and First Assault

Platforms: Xbox360 and PS3

Software Engineer

- Co-designed and implemented C++ runtime libraries that facilitated interaction between Unreal Engine and Audiokinetic's sound engine (Wwise).
- Co-designed and implemented dialogue system for all studio games, including automation of content pipeline and taking over FileMaker development.
- Designed and implemented C# tools to help content creators iterate over game audio and dialogue.
- Helped design and implement in-house game audio engine in C++ for *Star Wars: The Force Unleashed* and related titles.
- Streamlined audio conversion pipeline to under 1% of original iteration time.

Build Engineer

- Developed proposal for build server system used for all studio titles since 2009.
- Created various tools and utilities to automate multi-server build and smoketest processes using NAnt, Python, XML and C#.

2004-2006   *Euphonix, Inc.*   Palo Alto, CA

Software Engineer

- C++ Developer on the System 5 and MC audio console products. Worked on its build system, middleware, UI, surface emulator, firmware messaging, virtual ASIO driver control, GUI and installer.
- Worked on the EUCON Protocol, which is still used by Pro Tools and Avid products today.

Projects

Gapless-5: Envisioned and developed an HTML5-based audio player with gapless transitions. Recruited several contributors on GitHub.

https://github.com/regosen/Gapless-5

DemandVille technical co-founder: our product is a Rails app to help makers decide which features to work on, based on conditional pre-orders. Built app from scratch.

(US Patent Application No. 62014646)

http://regosen.com/demandville

Daily Fuzzy: Designed and developed Android and iOS apps that curate and share cute animal pictures (powered by Reddit), now available on the App Store and Google Play.

http://www.dailyfuzzy.com

gamelan_sequencer: Envisioned and developed a musical format and sequencer in Python, specialized for Gamelan ensembles.

https://github.com/regosen/gamelan_sequencer

get_cover_art: Python utility to scan your music library and embed high quality cover art.

https://github.com/regosen/get_cover_art

Mobile Fusion Tables: Led development of an easily customizable mobile web template for searchable Google Fusion Table maps with a team at Code for America.

https://github.com/sfbrigade/Mobile-Fusion-Tables

| **Education** | **Stanford University** | 2003-2004 | Stanford, CA |

- M.A. in Music, Science and Technology from the Center for Computer Research in Music and Acoustics (CCRMA).
- Designed and developed HRTF calibration system and spatializer in C++.
  (US Patent Application No. 10/907310)

Massachusetts Institute of Technology   1999-2003   Cambridge, MA

- Bachelor of Science, double majored in computer science and music.
- Research Assistant at MIT Media Lab.

Off the Clock

- Envisioned and developed a diagram-based cookbook; recipe published as part of Taschen's Food & Drink Infographics. http://www.cookbookfornerds.com

- Designed a mapping of beer/wine/spirits along the four classical elements of earth, air, water and fire; also published in above Taschen book. https://rego.threadless.com/