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PROFILE

Senior engineer and manager with years of experience in video game and virtual reality technology. Led engineering teams and mentored developers. Shipped several titles for mobile, desktop, console and VR platforms.

EXPERIENCE

TribeXR, Senior Engineer - April 2020

Collaborated with a small team to introduce lighting effects to TribeXR, a VR DJ application implemented in Unreal. Introduced streaming video playback and animated lighting with tight synchronization with the visuals. This required additions in to C++, Blueprints and Material Shaders.

High Fidelity, Avatar Team Lead — 2017-2020

Led a small team focused on Avatar development. Planned feature development roadmap to meet business and R&D goals. Extended blend tree animation system to support additive aim-offsets. Optimized inverse kinematics system for Oculus Quest. Modified existing rendering system to support dual quaternion skinning. Implemented support for real-time body tracking using Vive Trackers. Developed techniques for optimizing avatar network traffic to support up to 500 avatars in a single space.

High Fidelity, Senior Engineer — 2015-2017

Worked with Vive and Oculus hardware to bring room scale avatar animation to High Fidelity. Developed a blend tree animation system used to match traditional hand authored animation with procedural inputs from HMD and hand controllers. Implemented a tablet based user interface which allows users wearing an HMD to perform complex actions with hand controllers, without requiring a mouse and keyboard.

DeNA West, Engineering Manager / Senior Programmer — 2011-2015
Managed team of 10 engineers working on [Marvel Mighty Heroes](#), a mobile multiplayer action title, developed with Unity. Led the team during conversion from TCP network protocol to UDP. Worked with client and server engineers to minimize integration issues. Scheduled and coordinated changes to our feature set and roadmap, responding to the difficult demands of our IP holders. Also, as a Senior Engineer, contributed to ngCore, a 2D game engine for Android and iOS used by over 100 titles worldwide. Architected and implemented and optimized the 2D OpenGLES rendering pipeline with programmable shaders for Android and iOS.

Crystal Dynamics, Technical Consultant — 2009-2010
Contributed to [Tomb Raider](#). Designed and implemented a node based graphical programming system based on Crytek flow-graph and Unreal Kismet. Created over one hundred nodes that interfaced with every component of the game engine. Optimized character animation system, used on Lara Croft. Wrote an interaction system which synchronized animations between playable characters and objects in the world.

Crystal Dynamics, Senior Programmer — 2002-2008
Shipped [Tomb Raider: Underworld](#), [Tomb Raider: Legend](#), [Legacy of Kain: Defiance](#). Coded player systems for several titles, including control and animation of Lara Croft. Implemented node based blend tree character animation system, used in [Tomb Raider](#) and [Deus Ex](#). Worked on multi-core job system used to distribute computation tasks to idle CPUs or threads. Integrated an internally developed physics and collision detection system into the Tomb Raider engine. Collaborated with artists to create workflow and export plug-ins for Max and Maya. Implemented many gameplay systems, including: breakables, player markup, jump targeting, rope, push-blocks, switches, doors and pickups.

Muse Communications, Programmer — 1999-2001
Implemented rendering and animation sub-systems for the Muse platform. Wrote a scene-graph API used for rendering, sound and simulation. Developed a run-time importer for 3DS files, including geometry, materials & animation data.

Goldtree Enterprises, Lead Programmer — 1999-2001
Lead a small team that shipped two PC titles, Dead Reckoning and Cylindrix.

EDUCATION
University of New Orleans — B.S. Computer Science.

SKILLS
Proficient in C, C++, C#, JavaScript, Lua, Python. Platform experience with macOS, Windows, iOS, Android, Oculus and OpenVR. Experienced with source control systems such as git and Perforce.