

Christian Licona

Tools and Gameplay Engineer

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SKILLS

Programming Languages	C/C++ C# Lua Python GLSL/HLSL Visual Scripting
Software	ImGui OpenGL GNU Make CMake Doxygen Valgrind Git SVN/Subversion Perforce TeamCity Excel
Tools	Visual Studio JetBrains Suite Unity UE4 Windows Forms Maya Substance Painter Slack JIRA Confluence Davinci Resolve
Programming Skills	Debugging Cross-Platform Development Optimization Multithreading Object-Oriented Programming ECS
Soft Skills	Work ethic Critical thinking Teamwork Communication Time management Remote work Supportive
Platforms	Windows Linux Nintendo Switch (familiar) Meta Quest 2 & 3 (Android)

EDUCATION

Bachelor of Science in Computer Science in Real-Time Interactive Simulation

Redmond, WA | Graduated 2022

DigiPen Institute of Technology

Topics studied: Data structures, algorithm analysis, operating systems, memory management, Linux environments, computer graphics, linear algebra, calculus and analytic geometry, networking, artificial intelligence, raytracing

EXPERIENCE / PROJECTS

Engineer

Endeavor One | Feb 2024 - Dec 2024

Unannounced Project - (Unity Engine, VR)

- Explored solutions to problems with vr physics based combat to ensure a stable physics gameplay experience
- Documented and setup weapon prefab conventions to support rapid prototyping and construction of 5+ new weapons and ensure Design, Art, and Engineering can effectively contribute to each weapon simultaneously
- Implemented a spectator camera allowing a 2nd person to capture camera views other than what the VR player is seeing, in support of gathering footage for trailers, gifs, and videos

Engineer

Endeavor One | Nov 2023

Arashi: Castles of Sin - Final Cut - (Unity Engine, VR, Meta Quest 2 & PCVR)

- Supported external partners with testing, performance profiling, and bug reporting to hit major issues and soften the load during the final stretch of production

Engineer

Endeavor One | Dec 2022 - Oct 2023

Unannounced Project - (Unity Engine, VR)

- Developed an internal build manager and scene collections tool, making it easy for anyone to make a build with a certain collection of scenes and enabling quick setup of automated builds through TeamCity
- Rapidly prototyped 10+ new VR forward weapons and mechanics in collaboration with Design to help guide the direction of the game and find the fun
- Researched and explored implementations for scaling the player in VR correctly while avoiding issues with motion sickness

Engineer

Endeavor One | Jun 2022 - Nov 2022

Iron Man VR - (Unity Engine, VR, Meta Quest 2)

- Gathered performance profiler data to identify causes of performance spikes, working with engineering to make improvements and hit Quest 2 target framerate of 72fps
- Experimented with occlusion culling in certain levels to determine viability for improving performance
- Reported bugs into JIRA and implemented bug fixes and polish improvements for high priority issues
- Collaborated with artists to test performance improvements for certain problematic visual elements

Tools and UI Engineer

Team of 11 | Sep 2021 - Apr 2022

DeltaBlade 2700 Re:Create - (Custom Engine, 2D, C++, Git, CMake)

- Created a developer Tilemap editor using ImGui to focus on rapid creation and testing of 12+ core levels
- Developed a UI system utilizing ECS components, allowing the creation of complex UI relationships with minimal code
- Designed a Level Editor with our in-house UI system so players can easily create and share new levels
- Integrated multiple performance profilers under a common API, allowing performance analysis across multiple development platforms

Graphics Engineer

Individual | Sep 2020 - Apr 2021

OpenGL Graphics Framework, Academic Project - (C++, 3D, Git, CMake)

- Created a real-time rendering framework with C++, Glad, GLFW, and OpenGL to visualize advanced graphics
- Implemented the Phong shading model in GLSL to support rendering ambient, diffuse, and specular properties with up to 16 light sources
- Improved debugging of new graphics features with an ImGui interface allowing modification of graphics properties in real-time
- Combined forward and deferred scene rendering with frame buffers to efficiently render scenes with high polygon counts

Gameplay Engineer

Team of 10 | Sep 2020 - Apr 2021

Department of Astromaterial Acquisition - (Unity Engine, 3D, C#, Git)

- Rapidly prototyped gameplay systems to determine the direction of the project during pre-production
- Documented playtest reports using feedback forms and spreadsheets to help guide team priorities and progress
- Modeled, textured, and animated an in-game item using Maya and Substance Painter so players can craft and use the item in gameplay

Tools and Gameplay Engineer

Team of 11 | Sep 2019 - Apr 2020

Infinite Supernova - (Custom Engine, 2D, C++, Git, CMake)

- Built a visual debugger with ImGui for the teams benefit of viewing and editing engine parameters on the fly
- Developed a custom level editor with ImGui, allowing designers to rapidly build and prototype new levels and game modes
- Maintained core graphics systems utilizing OpenGL for rendering game objects
- Wrote gameplay scripts in Lua using an integration developed between the custom C++ engine and Lua

Gameplay Engineer and Producer

Team of 5 | Jan 2019 - Apr 2019

Deep Space Express - (Custom Engine, 2D, C, Git)

- Wrote documentation for the benefit of team members interfacing with different systems
- Incorporated into our engine system design techniques being taught concurrently with production of the project
- Built 6 different types of player controllable game objects in C making use of pseudo inheritance to speed up the creation process

Gameplay Engineer

Team of 3 | Oct 2018 - Dec 2018

Alpacadores - (Custom Engine, 2D, C, SVN)

- Animated and programmed 4 player character ultimate abilities to further deepen gameplay options
- Learned to utilize a provided lightweight engine to rapidly develop the project in a limited timeline of 6 weeks

VOLUNTEER EXPERIENCE

Redmond Dragon Run

Redmond, WA | Sep 2018 & Aug 2019

- Assisted in setting up and preparing tablets around Redmond to be prepared to meet residents participating in the Dragon Run event
- Ran an event kiosk, guiding players on their quests and to their next destinations around Redmond town center and providing them with an enjoyable and smooth experience