

JUSTIN W CAIN

SOFTWARE ENGINEER - GAME DEVELOPER



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EDUCATION

B.S. in Software Engineering, Michigan Technological University

2014 - 2019

WORK EXPERIENCE

Unity/C# Developer — Sonalysts, Inc.

📍 Waterford, CT

📅 Jun 2020 - Sep 2022

Developed Black Horizon: a Satellite Operations & Orbital Mechanics Education Game for the Air Force.

- Analyzed codebase and developed two year architecture refactoring plan anticipating customers future needs.
- Implemented visual scripting tools cutting content generation time from 30 days to 3 days; supported, function calls, multiple entry/exit points, cross graph connections, and networked communication.
- Designed an Entity/Component system that used Attributes and Reflection to generate complex systems at run-time. Allowed for our simulation to serve multiple customers within the same simulation without their systems conflicting. Optimized to avoid run-time costs of Reflection.
- Developed dynamic UI systems that allowed for automatic code linking, easy visual re-skinning, and cross platform support. Key to allowing UI/UX artists to test changes without touching code.
- Maintained production status and API documentation through JIRA and Confluence
- Worked remotely using Agile practices, paired programming, and peer code review to coordinate development.
- Built simulation as Desktop, Android, and iOS versions using xCode and BASH automation.
- Tested for and resolved memory leak and efficiency issues, solving crashing issues on lower end devices.

Unity/C# Development Intern — Coney Dog Games

📍 Remote

📅 May 2018 - Aug 2018

Solo programmer in a team of three to create a retro-classic arcade shooter.

- Developed systems including AI, Controls, UI, Audio, Customizable Options, and toolsets
- Implemented a system for rendering 2D sprites in stylized 3D.
- Collaborated with designers to implement prototype from the ground up

VP of Operations & Team Lead — Husky Game Development

📍 Houghton, MI

📅 Sep 2016 - May 2019

Oversaw the general assembly in a student-driven, game development guild; while also leading my own team.

- Taught topics including documentation processes, tools development, C#, and Unity
- Managed two Unity development teams and evaluated their deliverables
- Designed and implemented a custom scripting language using ANTLR
- Created a Non-Euclidean 2D rendering system.

PROJECTS

Hexquisite

A calming Hexagonal Sliding Block Puzzle Game. Custom rotation and collision code, and AI assisted dev tools. (Try it here)

Genetic Euchre

A regional card game with AI trained on millions of matches with genetic machine learning. (Try it here)

Discord Fake Quote Generator

Python Discord Bot that scrapes chat history and uses machine learning to build a model to emulate user's speech.

Bake Cookies

My quest to bake the perfect Peanut Butter Chocolate Chip cookie. (Recipe Here)