

# CONAN K. ZHANG

## VR Games Engineer

[conankzhang.com/portfolio](https://conankzhang.com/portfolio)

[github.com/conankzhang](https://github.com/conankzhang)

[linkedin.com/in/conankzhang](https://linkedin.com/in/conankzhang)

## EXPERIENCE

### Character Gameplay Engineer

343 Industries

May 2019 – Present

Redmond, WA

- Developed *Halo Infinite* combat AI using C++ on a team of 20 consisting of animators, designers, producers, and engineers
- Implemented entering and exiting vehicle behaviors based on player state so that actors intuitively follow players
- Engineered line of sight script functions for designers to improve player awareness during combat
- Integrated custom combat behaviors to enhance close quarters and long range boss combat
- Debugged character locomotion and physics issues while upgrading animation and action systems

### Gameplay Engineer

WB Games Avalanche

May 2018 – Feb. 2019

Salt Lake City, UT

- Developed player gameplay animation systems in C++ on an unannounced project with a team of 12 engineers and designers
- Implemented a data-driven reaction system so that designers can author animations based on character and projectile type
- Engineered data-driven asset lookup for dynamic loading of animations based on character type
- Coded automatic generation of foot plant events based on animation curves for over 700 bipedal animations
- Programmed previewing animations based on a character's speed and direction at design-time to debug blend spaces
- Built a runtime debug display of a character's animation properties blended across multiple animation channels

### Co-Founder & VR Games Engineer

Grace Foundry

Jan. 2016 – Sep. 2018

Salt Lake City, UT

- Founded VR game studio *Grace Foundry* with a team of 9 engineers, artists, designers, and producers
- Engineered *Audiowave VR*, a virtual reality music visualizer with a procedurally generated world using Unity 3D and C#
- Partnered with musicians through the record label *DESKPOP* by featuring an original album made for *Audiowave VR*
- Presented as a Regional Finalist for the nation's largest student entrepreneurship competition *Tiger Launch x Seattle 2018*
- Launched successful crowdsourcing campaigns under the business incubator *Lassonde Company Launch Program*

## EDUCATION

### MEAE Masters, Game Engineering

GPA: 3.419

May 2019

University of Utah

### B.S. and Honors, Computer Science

GPA: 3.535

May 2017

University of Utah

## SKILLS

### Programming Languages

C#

C++

Lua

Python

PowerShell

### Software and Tools

Oculus Rift

HTC VIVE

Gear VR

Leap Motion

Windows

Android

Xbox One

Unity 3D

Unreal Engine 4

Photon Engine

Git

Perforce

SVN

Visual Studio

Confluence

MySQL

### Agile Development

Scrum

Kanban

Asana

JIRA

Azure Boards

Hansoft

Trello

## PUBLISHED VR GAMES

### [Audiowave VR](#)

### [Mobile VR Music Visualizer](#)

Published Aug. 2017

Unity, Windows, Android

- Designed a virtual reality music visualizer experience with a team of 9 for Windows and Android devices using Unity 3D and C#
- Implemented sound visualization algorithm with audio spectrum analysis to manipulate object properties
- Engineered generating 360 Music Video content in-engine with data serialization and playback synchronization
- Coded a file browser for selecting custom music files on mobile and desktop platforms
- Won 1<sup>st</sup> Place for Best Universal Windows Application and 2<sup>nd</sup> Best Overall Hack at Utah's Largest Hackathon *HackTheU*
- Earned 3<sup>rd</sup> Place in Utah's statewide business model competition *Opportunity Quest*

### [Rooms of Perdition](#)

### [Mobile VR Escape Room](#)

Published Dec. 2017

Unity, Windows, Android

- Developed a horror virtual reality escape room with a team of 5 for Windows and Android devices using Unity 3D and C#
- Programmed an inventory system with a curved user interface for stationary menu management
- Built a data-driven interaction system for designers to easily create contextual dialogue based on the equipped item