

HONGZHU ZHAO

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RELATED SKILLS

- Shader Development
- Physics-based Simulation
- Mesh Manipulation Algorithms
- Character Animation

LANGUAGES

- C#
- Python
- ShaderLab
- HLSL
- HTML
- C / C++
- JavaScript
- MEL
- VEX
- CSS

TOOLS AND FRAMEWORKS

- Unity
- Maya
- Qt
- Git
- OpenGL
- UE4
- Houdini
- AngularJS
- Perforce
- OpenCV

COURSES

GRADUATE

Technical Animation
Character Technical Animation
Improvisational Acting
Visual Story

UNDERGRAD

Linear Algebra
Operating Systems
Algorithms
Computer Organization
Software Engineering
Computer Networks

EDUCATION

Carnegie Mellon University, Entertainment Technology Center

Master of Entertainment
Technology

AUG 2018 – MAY 2020
(EXPECTED)

University of Science and Technology of China

Bachelor of Engineering in
Computer Science

AUG 2014 – JUN 2018

EXPERIENCE

Tonk Tonk Games

UFIGHTER – TECHNICAL ARTIST

MAY 2019 – AUG 2019 and JAN 2020 – CURRENT

- ▶ Created Unity character rendering shaders which integrate with in-house lighting system
- ▶ Extended the face generation pipeline to enable on-device part morphing
- ▶ Designed and implemented an algorithm to optimize face mesh at run-time
- ▶ Worked with artists to verify, preprocess, and integrate new assets
- ▶ Engineered a run-time skin weight transferring pipeline allowing character facial animations to be played on third-party models with full fidelity
- ▶ Researched and created demos on integrating new technologies such as ARKit 3

Entertainment Technology Center (Carnegie Mellon University)

EXODUS – TECHNICAL ARTIST / PROGRAMMER

AUG 2019 – DEC 2019

- ▶ Updated the graphics pipeline and migrated shaders to improve visuals
- ▶ Designed in-game UI and implemented it with MVVM pattern
- ▶ Engineered spring-based simulation system to support fluid camera control
- ▶ Created a wind system consisting of Houdini mesh baking tools and Shader Graph shaders
- ▶ Built a Jenkins pipeline for automatic builds by polling Perforce and manual builds from a custom Unity editor plugin
- ▶ Implemented custom nodes for visual scripting tools for game systems

BUILDING VIRTUAL WORLDS – EFFECTS / GAMEPLAY PROGRAMMER

AUG 2018 – DEC 2018

- ▶ Completed 5 two-week game projects as gameplay and visual effects programmer within multi-disciplinary teams (2 programmers, 2 artists, and a sound designer)
- ▶ Created systems such as interactive ropes and a liquid-in-a-container effect using shader and simulation techniques
- ▶ Two worlds selected by the jury to be showcased at the 2018 ETC Festival

Basically Good Media Lab (Emily Carr University of Art + Design)

I AM AFRAID – PROGRAMMER

JUN 2017 – SEP 2017 AND JUN 2018 – AUG 2018

- ▶ Responsible for cleaning up the code base for performance and clarity, creating simple shaders, and troubleshooting technical problems
- ▶ Developed a collaboration system in Unity enabling networked users to manipulate objects in a VR environment
- ▶ Implemented Node.js server for loading and saving user-created worlds in the cloud
- ▶ Art Poster accepted at SIGGRAPH 2018

RE: VERB – PROGRAMMER

JUN 2017 – SEP 2017

- ▶ Developed UE4 C++ plugin with Blueprint interface and Python middleware to listen to a performer's dictation and automatically control objects in a virtual world
- ▶ Re:verb was presented during the opening celebration for the new Emily Carr University Campus on Great Northern Way in Vancouver, British Columbia