WAYNE WU

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HIGHLIGHTS

- **Graphics:** 3D, Simulation, Rendering, FX, Character
- **Design:** Workflow, UI/UX, Pipeline, Complex Systems
- **Courses:** Computer Graphics, Machine Learning, HCI
- **Interests:** Cinematography, Bartending, Travel

SKILLS

- **Tools:** Houdini, USD, Unity, Blender, Maya, Nuke, JIRA, Linux, Qt, Processing, Arduino
- **Languages:** C++, Python, GLSL, VEX, C#, Java, MATLAB, JavaScript, SQL, HTML

PROFESSIONAL EXPERIENCE

Production Technology Technical Director, Blue Sky Studios — August 2019 - Present

- Architected the Conduit framework in Houdini, with PDG integration and simplified pipeline I/O connections, enabling technical artists to develop scalable and parallelized multi-shot/asset setups in Houdini.
- Established new USD workflows and techniques in Houdini for handling different FX body types, including data generation, composition, wedging and rendering with RenderMan, all with specialized USD tools.

3D Software Developer (Co-op), SideFX — Fall 2017 & Summer 2018

- Introduced the material-based fracturing toolkit for Houdini, using physics-based fracturing techniques, and a modularized RBD workflow to efficiently manage and art-direct heterogenous destruction setups.
- Developed a FACS-based facial auto rigging system for Houdini, adaptable to locators, blend shapes and motion-capture driven animations, while easily retargetable to other characters.

Technical Director, Tangent Animation — Fall 2015 & Summer 2017

- Implemented a Blender character GUI system using PyOpenGL allowing artists to create templated character pickers with flexible viewport-based interactions for animation.
- Improved the rigging, layout and animation workflows by building artist-friendly Blender addons such as character picker, custom scene outliner, dynamic constraint tools, and various character/rigging utilities.

Associate Software Developer (Co-op), Electronic Arts — Winter 2017

- Designed and implemented new algorithms in the game engine, Frostbite, for Plants vs. Zombies' live service user data collection, licensing management and monetization strategies.

PERSONAL & ACADEMIC PROJECTS

Circles, Web Application — September 2018 - April 2019

- Designed a web application to facilitate remote social interactions between older adults at risk of isolation.
- Enforced participatory and user-centric design including interviewing older adults for design requirements and performing user testing with quantitated feedback for iterating the design.

Computational Studies, MATLAB — Winter 2018, Fall 2018

- Implemented a mass-spring cloth solver using numerical integrations with custom correction model.
- Implemented and evaluated various numerical optimization techniques to solve Inverse Kinematic problems.

Shallow Water, WebGL — Fall 2017

- Simulated a modified shallow water model using GPGPU in WebGL with real-time user interactions.
- Implemented ray marching algorithms in GLSL for rendering water refraction and caustics.

EDUCATION

University of Waterloo, Waterloo, Ontario — GPA: 3.9/4.0

Bachelor of Applied Science (Honors), **Systems Design Engineering**, 2019

- Graduated with Distinction - Dean's Honors List, 2019
- Exchange student at the National University of Singapore, 2018
- W.W King Exchange Fellowship, 2018
- Engineering Faculty/Staff Upper Year Scholarship, 2018
- President's Scholarship, 2015

VOLUNTEER

- SIGGRAPH 2018, 2019

LANGUAGES

- English (Native)
- Chinese (Native)
- French (Professional)
- Japanese (Beginner)