

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
- **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 connections, enabling technical artists to develop parallelized setups on over 30,000 show products within Houdini.
- Established new USD workflows and techniques in Houdini, and instructed to 12 FX Artists, for handling different FX data, from generation, composition, wedging to rendering with RenderMan.

3D Software Developer (Co-op), SideFX

Fall 2017 & Summer 2018

- Introduced the material-based fracturing toolkit for Houdini, using new fracturing techniques, and a modularized RBD workflow to efficiently manage and art-direct destruction setups with 4x speed gain.
- Developed a FACS-based facial auto rigging system for Houdini, with real-time 24+ fps animation playback while retargetable to other characters with varying facial topology.

Technical Director, Tangent Animation

Fall 2015 & Summer 2017

- Implemented a Blender character GUI system using PyOpenGL allowing artists to create templated character pickers on over 20+ unique characters 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 with 1.5M+ active players.

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 a focus group with 19 older adults for user interviews and user testing to synthesize and iterate 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)