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, Traveling

SKILLS

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

PROFESSIONAL EXPERIENCE

Production Technology Technical Director, Blue Sky Studios Aug 2019 – Jan 2021

- 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 Solaris for handling different FX data, including scene organization, generation, composition, caching, wedging and rendering with RenderMan.
- Converged and refactored multi-departmental Houdini tools for maintainability and scalability, and trained 50+ artists and TDs on Conduit, Solaris and PDG concepts.

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 Sep 2018 – Apr 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, Ontario, Canada 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

VOLUNTEERING

- SIGGRAPH 2018, 2019

LANGUAGES

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