WAYNE WU

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HIGHLIGHTS

- **Focus**: 3D visualization, simulation, procedural graphics, rendering, metaverse, real-time, immersive, visual effects, interaction design
- **Interests**: traveling, bartending, cinematography

SKILLS

- **Tools**: Houdini, USD, Unity, CUDA, Qt, OpenGL, Blender, Maya, Unreal, TouchDesigner
- **Languages**: C++, Python, GLSL, VEX, C#, Java, JavaScript, SQL, HTML, MATLAB

PROFESSIONAL EXPERIENCE

R & D Engineer (Production), Industrial Light & Magic Jun 2021 – Sep 2021

- Presented Blue Sky Studios' procedural USD workflows at SIGGRAPH 2021, and simultaneously applied the concepts to ILM's pipeline, validating and refining the solution to be flexible and pipeline-agnostic.
- Established the long-term USD vision across disciplines for the studio, converging both asset and shot-based workflows for ease of maintenance while facilitating greater collaborations between artists at all stages.

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

- Architected our pipeline system framework in Houdini (Python), with PDG integration and simplified pipeline bridges, enabling technical artists to develop parallelized setups on over 30,000 show products within Houdini.
- Established new FX workflows in USD and Solaris (VEX, Python) to work with RBD, VDB, and mesh-based effects, including SOP-LOP translation, scene organization, heavy layer caching, shading, and rendering with RenderMan.
- Unified and refactored all rendering tools used by both Maya and Houdini-based departments with PyQt for user interface and PDG for farm job submissions and management.
- Trained 50+ artists and TDs on pipeline, USD, Solaris, and PDG concepts, and interfaced with artists, supervisors, and external vendors in formulating workflow design options.

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

- Introduced the material-based fracturing toolkit for Houdini (VEX), using new fracturing techniques, and a modularized RBD workflow to efficiently manage and art-direct destruction setups with 4x speed gain.
- Developed a facial auto-rigging system for Houdini (Python, PyQt, VEX, C++), with interactive 24+ fps animation playback, and retargetable FACS blend shapes independent of characters' facial topologies.

Technical Director, Tangent Animation Fall 2015 & Summer 2017

- Implemented a Blender character GUI system (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 (Python) 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 features in the game engine (C++) for Plants vs. Zombies' live service user data collection, licensing management and monetization strategies with 1.5M+ active players.

EDUCATION

University of Pennsylvania, PA, USA
Master of Science in Engineering, **Computer Graphics and Game Technology**, 2023

- Courses: GPU Programming, Computer Animation, Machine Perception, Engineering Entrepreneurship, Advanced Topics in Computer Graphics

University of Waterloo, ON, Canada
Bachelor of Applied Science (Honors), **Systems Design Engineering**, 2019

- Graduated with Distinction - Dean's Honors List, 2019
- Engineering Faculty/Staff Upper Year Scholarship, 2018

VOLUNTEERING

- SIGGRAPH 2018, 2019

LANGUAGES

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