

KELLY WANG

krw@fb.com • (408) 981 0991 • kelly-wang.com

demo reel: <https://vimeo.com/299807660>

EDUCATION

Brown University

(Providence, RI) May 2019

Sc.B. Computer Science; 3.90 GPA

RELEVANT COURSEWORK

Advanced Computer Graphics, Computer Graphics, Computer Animation I, Computer Animation II, Computer Systems, Algorithms, Object-Oriented Programming, Data Structures, Linear Algebra, Modern Web Applications, UI/UX, HCI Seminar

SKILLS & KNOWLEDGE

LANGUAGES

C++, Python, OpenGL/GLSL, JavaScript (React), Hack, Java, C, HTML/CSS, Qt

PROGRAMS

Maya, Arnold

SELECTED PROJECTS

Cloud Generation • C++

May 2019

- Group project for graduate seminar CS2240: Interactive Computer Graphics
- Implemented physically-based simulation of cumuliform cloud generation using computational fluid dynamics
- Implemented semi-Lagrangian advection, used OpenVDB for visualization

Path Tracer • C++

February 2019

- Implemented a recursive Monte Carlo path tracer with Russian Roulette termination, event splitting, and full global illumination
- Implemented stratified sampling, attenuated refracted paths, and BRDF importance sampling. Supports diffuse, glossy, reflective, and dielectric refractive BRDFs

VR Environment for HTC Vive • C++, OpenGL

December 2018

- Group project for CS1230: Computer Graphics
- Created an environment for the HTC Vive, focusing on L-System generation, procedural terrain generation, and crepuscular rays

WORK & RESEARCH EXPERIENCE

Pixar Animation Studios • Software Engineering Intern

June 2019 — September 2019

- Intern on the Universal Scene Description team, Pixar's open-source software. Worked primarily in C++, also used Python
- Added support for accelerations to point instancer and point based (mesh) schemas as requested by SideFX, in order to better render motion blur. Updated calculations for instance transforms and added validation for time sample correspondence
- Added support for OpenEXR files in USDZ files using OpenImageIO, an open source library for image reading/writing
- Made UI improvements to USDView, a tool used to visualize USD files. Improved algorithm used in USDView's search tool for searching prims in a USD scene

Facebook • Software Engineering Intern

May 2018 — August 2018

- Full stack web development on Video Ads team. Designed and built frontend and backend for a computer vision-based image transformation tool
- Created Graph API endpoint, built async tier job to execute C++ package, used realtime publishing and subscribing platform, built frontend using React and state management framework, added logging, wrote screenshot tests

Brown Human Computer Interaction Lab • Research Assistant

January 2017 — January 2019

- Worked on Hologram, a VR project that uses perspective compensation to make objects on a 2D screen appear 3D using three.js
- Conducted user studies and implemented changes in UI for Rewind, a web application that uses location history data to recreate memories
- Paper "Rewind: Automatically Reconstructing Everyday Memories with First-Person Perspectives" published in IMMUT May 2019

Stanford Human Computer Interaction Group • Research Intern

June 2017 — August 2017

- Designed and conducted study on the influence of user interfaces on perceived belonging and exclusion based on environmental cues
- Created test user interfaces and interviewed test subjects, conducted statistical analysis of data, and contributed to technical paper on findings
- Paper "Gender-Inclusive Design: Sense of Belonging and Bias in Web Interfaces" published in CHI 2018 Proceedings