Yitong (Tiffany) Li

tiffany.li.0001@gmail.com | helveticalover.github.io

EXPERIENCE

Roblox, Engine UI [C++, Boost, Lua] San Mateo, CA | April 2022 - Present
Software Engineer
- Implemented functionality for proprietary in-engine styling tool, including a custom selector syntax parser and efficient caching, evaluation, and application of style overrides, and validated their robustness by writing a suite of 77 unit tests
- Supported internal adoption of styling tool projected to reduce UI code by 30% and improve UI performance by 23% by resolving issues discovered by plugin teams and supporting requested functionality through API changes
- Investigated and resolved issues in UI performance, resulting in 13.5 ms reduction in rendering paths for top-25 game
- Communicated directly with external developers on forums to address reported issues and announce changes

Riot Games, Valorant [C++, Unreal 4] Los Angeles, CA | August 2020 - March 2022, Summer 2019
Software Engineer
- Supported character KAY/O's release by implementing designer-friendly systems for prototype mechanics, such as temporary death and ability suppression, and conducting blueprint reviews for game designers
- Designed and implemented cached and roaming agent-specific keybind settings through UMG and Unreal engine modifications, with iteration support from QA, designers, and internal playtesters
- Resolved gameplay and networking bugs each two-week patch cycle by reporting bugs to Jira, implementing code-reviewed bugfixes, and coordinating validation and deployment plans with QA

Carnegie Mellon Robotics Institute, Computer Game Programming [Apache, Shibboleth] Pittsburgh, PA | Summer 2020
Research Intern
- Developed web framework for generating interactive gameplay engineering C++ lessons from doxygen-based source files, serving WebAssembly compiled from student C++ submissions, and providing instructor feedback on submissions
- Deployed website to production Apache server with SSL certification and single-service sign-on using Shibboleth

Carnegie Mellon School of Computer Science, Principles of Software Construction [Java] Pittsburgh, PA | Fall 2019
Teaching Assistant

Raven Software, Call of Duty Cold War [C++] Middleton, WI | Summer 2018
Gameplay Engineering Intern
- Prototyped and playtested multiplayer team-based game modes by scripting and designing levels using proprietary tools

PROJECTS

Magpie, Computer Game [C++, OpenGL, Maya, Blender] Pittsburgh, PA | Fall 2018
- Modeled and animated all 3D assets in Maya and Blender, including characters, environment, and interactables
- Designed and implemented level creator and dynamic asset loading pipeline by encoding mesh, room, and AI pathing information in RGB channels of PNG files

Pick Me Up, Animation Short [Maya, Premiere] Pittsburgh, PA | Spring 2018
- Pitched animatics and character designs through two rounds of selection to recruit and direct a team of 5 animators
- Constructed body rigs for squirrel and turtle characters using dynamic ribbon splines and integrated FK/IK support
- Animated and rendered 13 shots by blocking elements, framing camera, and animating body movements

Scotty3D, 3D Modeling/Animation Program [C++] Pittsburgh, PA | Spring 2018
- Implemented local and global halfedge mesh operations, including loop and Catmull-Clark subdivision
- Implemented physical lighting for diffuse, specular, and refractive materials using Monte Carlo path tracing
- Implemented animation functionality such as Catmull-Rom keyframing, FK/IK joints, linear blend skinning, and forward/symplectic Euler physics simulation

EDUCATION

Carnegie Mellon University Pittsburgh, PA | May 2020
QPA 3.77/4.0 Bachelor of Computer Science and Arts & Game Design Minor
(Dean's List Fall '16 - Spring '17, Spring '18 - Spring '19)
Courses Computer Game Programming, Computer Graphics, Introduction to Computer Systems, Discrete Differential Geometry, Web App Development, Principles of Software Construction, Character Rigging, RPG Writing Workshop

SKILLS

Programming Languages C/C++, Java, C#, Python, HTML5/CSS, JavaScript, Lua, SML
Tools Unreal 4, Git, Perforce, Maya, Unity, Blender, Photoshop, Premiere