

Ethan Guo

University of Waterloo Software Engineering 2023

@ ehquo@uwaterloo.ca

📞 226-666-6092

🐙 github.com/ethquo

🌐 linkedin.com/in/ethquo

SKILLS

Languages: C, C++, Java, Scala, Kotlin, C#, Python, JavaScript, TypeScript, HTML/CSS, Go, SQL

Technologies: Unity, Unreal Engine, Android, OpenCV, Qt, React, Flask, Node, GraphQL, jQuery, Git, Perforce

Expertise: UX design, 3D modeling, Graphics, AR/VR, Audio/video production, Computer vision, IoT, Robotics

EXPERIENCE

Jr Technical Director & Developer *Tangent Animation, Toronto, Ontario* **May 2021 – Aug 2021**

- Integrated Pixar Hydra rendering engine support into Blender (C++), enabling new artist workflows during studio-wide migration to a new Pixar USD-based production pipeline.
- Wrote AWS Deadline plugins in Python to parallelize rendering jobs across Windows and Linux farms.
- Supported artists across all departments by troubleshooting and writing bugfixes for Blender, Maya, and Houdini plugins and pipeline tools (Python).

SDK Software Developer *AMD, Markham, Ontario* **Sep 2020 – Dec 2020**

- Set up automated build and test pipeline for a C++ audio library using Jenkins, CMAKE and Python scripts.
- Drove the migration from Perforce to GitHub, including setting up CI with Jenkins pipeline.

Unity Developer *Spatial Systems, New York, NY* **Jan 2020 – Apr 2020**

- Overhauled AR/VR-oriented 3D user interface, virtual keyboard input and interaction sound effect systems to unify the user experience across different AR/VR platforms and improve feature discoverability ([report](#)).
- Implemented above features and other fixes in Unity 3D under strict timelines for initial public launch.

Software Engineering Intern *Christie Digital, Kitchener, Ontario* **May 2019 – Aug 2019**

- Added colour calibration feature to projection mapping software in C++, with a configuration interface in Qt.
- Programmed an industrial robotic arm, and built a custom peripheral device using an Arduino and custom PCB to interface our calibration software with the robotic arm.

Robot Technician *Rapid Novor, Kitchener, Ontario* **Jul 2018 – Aug 2018**

- Developed lab protocols on a robotic pipetting platform using C and Python to streamline lab operations.

Software Engineering Intern *Teledyne DALSA, Waterloo, Ontario* **Jul 2017 – Aug 2017**

- Developed computer vision system using OpenCV and Python to localize and guide an industrial robotic arm.

LEADERSHIP EXPERIENCE

Product Manager / Logistics Team Lead *Hack the North* **Feb 2019 – Present**

- 2021: Defined requirements and coordinated timelines and deliverables across design, frontend, and backend teams for 6 major projects with 4,000+ users.
- 2020: Led the team to pivot to planning our first virtual event, hosting 3,000+ participants from 48 countries.
- 2019: Managed a team of 8, each with individual projects ranging from catering 10,000+ meals to designing efficient check-in and judging processes, in order to host Canada's biggest hackathon for 1,500+ participants.

Founder and Lead Organizer *JAMHacks and JAMHacks 2* **Sep 2016 – May 2018**

- Created and organized Waterloo's first 12-hour and 24-hour high school hackathons respectively, with an audience of over 300 students and over \$10,000 in sponsorships by 2018.

PROJECTS

FightVR 🔗 *Red Bull AdrenaLAN Hackathon 2018 – Best VR/AR Hack* **Jul 2018**

- Created a Unity game for Google Cardboard which uses a second phone as a VR controller.
- Used Unity peer-to-peer multiplayer framework to link the controller phone to the display phone.

Raytracer 🔗 **Jan 2018**

- Implemented a raytracing 3D renderer from scratch in Processing (Java) with a UI to edit the scene in realtime.

Polyspective 🔗 *THacks 2 – Best Hardware Hack* **Oct 2017**

- Created software to automatically switch between multiple live camera feeds in realtime based on various video and audio metrics, such as facial feature detection using OpenCV in Python.