

# Daniel Liu

🌐 website | 🐙 github | {} devpost | 🎮 itch.io | ✉️ d278liu@uwaterloo.ca | 📞 226-759-3635

## projects

---

### DiscourseVR : Multiplayer VR Debate

📅 Apr 2021

- Built a **multiplayer VR** application with networked voice and text chat using the **Unity Game Engine** along with packages like Mirror, Dissonance, and RockVR
- Created a companion **Vue** webapp using **Nuxt** and **TailwindCSS** to playback the recorded debate, along with a **Google speech-to-text API** generated live transcript
- Served video files through **NGINX** and wrote a **shell script** to automatically format videos with **ffmpeg** and upload to the main server via **rsync**

### git-cli : Lightweight Version Control System

📅 Jan 2021

- Implemented a version control system from scratch in **C** that supports the essential features like staging, committing, reverting and branching
- Involved binary I/O, command line argument parsing, and packaging for various popular **linux distributions** like debian, arch and gentoo

### Quizzikal : Educational Trivia with Friends

📅 Aug 2020

- Developed a crowdsourced trivia webapp using **Vue** and the **Vuetify** component library to encourage pandemic learning
- Deployed a backend that exposes **REST** endpoints, performed authentication using **JSON Web Tokens**, and interacted with a **PostgreSQL** database to store user data

### Soulless : Platformer Game Made in 72 Hours

📅 Oct 2019

- Created a side-scrolling platformer game for Ludum Dare 45 game jam in under **72 hours** that placed in the **top 20** most played games out of **2500+** submissions
- Made use of the **Unity Game Engine** and created all game assets like sounds effects, sprites and animations from scratch

## skills

---

### Languages

**programming** C, C++, C#, Haskell, Java, JavaScript/TypeScript, Python

**markup** HTML, CSS,  $\LaTeX$ , Roff

**other** Unix Shell/Bash, SQL, GraphQL, HLSL

### Tools/Frameworks

**frontend** Vue, React, Django, Bootstrap

**backend** Node, Express, MongoDB, PostgreSQL

**linux** Vim, Git, NGINX, Docker, Arch Linux

**game dev** Unity, LibGDX, Blender, Tiled

## education

---

### University of Waterloo

📅 2020-2025

Bachelor's of Computer Science with Digital Hardware

## interests

---

### Hackathons & Game Jams

Participated and submitted to 10+ hackathons and 5+ game jams

### Manga Scanlation

Translate, clean, and typeset a variety of Japanese manga

## experience

---

### Canadian Young Physicist's Tournament : Bronze Medalist

📅 2019-2020

- Designed and presented experiments to investigate fascinating physics phenomena like magnetic levitation, throwing card aerodynamics, and the Coanda Effect
- Used **Python** libraries like **Pandas** and **NumPy** to supplement physical models, as well as **Matplotlib** to generate a of variety graphs

### SHAD York 2019

📅 2019

- Developed a prototype **Android app** in **Java** and **Android Studio** to encourage purchasing of more environment friendly products and pitched to a panel of **angel investors**

### CodeReach : Teaching Assistant

📅 2018-2019

- Organized after school program to teach grades 7-8 students the fundamentals of **Python** scripting and **Pygame** graphics programming
- Prepared **20+ weeks** of lecture material, assignment questions and projects