# Liang Wang

Guelph, ON | 647-785-5604 | liang.wang.ice@gmail.com | GitHub | LinkedIn

## Education

**University of Guelph** Sep. 2020 – Apr. 2025 (expected)
*Bachelor of Computing (Co-op Honors), Computer Science, Minor in Mathematics, Cumulative GPA: 3.7/4.0 (85.1%)* *Guelph, ON*

## Technical Skills

**Languages**: Rust, Java, C#, C++, C, Python, JavaScript, TypeScript, HTML, CSS, SQL, learning Haskell for fun
**Frameworks/Libraries**: Tokio, Serde, Spring (Boot), React, React Native, Angular, Node.js, Nestjs, jest, TypeOrm
**Developer Tools**: Docker, Git, Google Cloud Platform, Firebase, Jenkins, Address Sanitizer, General Unix CLIs, fish shell, PowerShell

## Experience

**Software Developer, Co-op** Jan. 2024 – Apr. 2024
*Magnet Forensics* *Waterloo, ON*
*Working on providing law enforcement and investigators with insights into digital evidence*

**Undergraduate Research Assistant** Sep. 2023 – Dec. 2023
*University of Guelph, Department of Computer Science* *Guelph, ON*
- Developed, performed, and analyzed experiments on correlating display luminance to close up illuminance measurements
- Provided rationales on the impossibility of measuring display luminance by placing lux meters against them directly, prevented months of wasted effort
- Researched the applicability of Color Appearance Models (CAM) to the problem of Situation Vision Impairment (SVI)

**Software Developer, Co-op** May. 2023 – Aug. 2023
*Distributive* *Kingston, ON*
- Worked on a system for allowing edge devices to compute together in parallel, bringing cheap and private computing to the masses
- Implemented transparent WebGPU usage metrics tracking system, enabling the use of web browsers for GPGPU such as AI inferencing
- Diagnosed and fixed longstanding concurrency bugs with DB connections, increasing system throughput *up to 10×*
- Investigated and repaired flaky tests, reducing CI build time by *up to 20 minutes*

**Software Developer, Co-op** Sep. 2022 – Dec. 2022
*Interac* *Kitchener, ON*
- Developed and tested a minimum viable environment for individuals and financial institutions to securely exchange sensitive data
- Integrated existing APIs onto a React Native application with the minimum viable environment above
- Researched and developed a blockchain-based system for exploring the potentials of digitalizing cash transactions, aiming to improve correctness, and lower cost

**Undergraduate Research Assistant** Oct. 2021 – Mar. 2022
*University of Guelph, Department of Engineering* *Guelph, ON*
- Developed a digital twin solution that allows for real time monitoring of a manufacturing system using C++, React, and Firebase to improve observability and prevent malfunctions
- Devices backed through Google IoT Core with Pub/Sub as reliable data delivery pipeline
- Implemented a react-based dashboard showing real time status of the manufacturing system

**Software Developer, Co-op** Dec. 2018 – Jun. 2019
*DM&T Service LTD.* *Richmond Hill, ON*
- Developed a contact form allowing users to enter their information on a website to be recorded in a database
- Implemented a full stack application that shows the location and status of 80+ snow removal trucks in real time
- Both built with Java Spring as back-end, Angular as front-end and mariaDB as the database

## Personal Projects

**midwest_mainline** | *Rust, Tokio* *Repository*
- A library implementation of the BitTorrent mainline Distributed Hash Table (DHT) using fully async network calls, allowing users to partake in a large decentralized system to look for Bittorrent peers
- Performs `ping`, `find_node`, `get_peers`, and `announce_peer` RPCs, conforming to the specification
- Provides basic mitigation against malicious requests and denial of service attacks by strictly specifying allowed message variants, and using bounded channels