

# Michael Le

m42le@uwaterloo.ca | (647) 537-9503

[lemichael.xyz](mailto:lemichael.xyz) | [github.com/LeMichael88](https://github.com/LeMichael88) | [linkedin.com/in/lemichael88](https://linkedin.com/in/lemichael88)

## EDUCATION

### University of Waterloo

Sep 2019 – Apr 2024 (Expected)

Candidate for Honours Bachelor of Computer Science (BCS)

Waterloo, Ontario

- 3.91 Cumulative GPA (out of 4.0), 91% Cumulative Average, Dean's Honour List

## EXPERIENCE

### Riot Games

May 2023 – Aug 2023

Software Engineer Intern

Los Angeles, California

- Refactored core game and engine level code in **C++** to support an unreleased feature for League of Legends
- Developed an enhanced pathfinding system using **HavokAI**, **reducing search times** by up to **33%**
- Built in-game debugging tools using **ImGui** to help developers visualize pathfinding and movement data
- Shipped bug fixes impacting in-game UI and character spells using **Perforce**, improving player experience

### Huawei Technologies Co., Ltd

Jan 2023 – Apr 2023

Compiler Software Engineer Intern

Markham, Ontario

- Wrote **SYCL** kernels for operators such as **fused multiheaded attention** with zero padding, using NVIDIA's **Cutlass** library, manual synchronization, and vector algebra to **reduce execution time** by **75%**
- Implemented **double buffering** to read and write data concurrently, **increasing kernel speed** by **10%**
- Researched and tested AI/ML operators to profile and improve Huawei's **BiSheng C++** abstractions

### Riot Games

May 2022 – Aug 2022

Software Engineer Intern

Los Angeles, California

- Engineered a multi-team rate limiting solution using **Go**, capable of handling over **100k** API requests/min
- Spearheaded the project by writing **system architecture design documents** and planning tasks with Jira
- Utilized **Redis** as a distributed cache with multiple nodes, **eliminating downtime** if a node fails
- Created **Jenkins** multibranch pipelines to automatically test, lint, build, and deploy changes on push

### Applyboard

Sep 2021 – Dec 2021

Software Engineer Intern

Waterloo, Ontario

- Built backend services with **Ruby on Rails** and **MySQL**, helping users search for data more accurately
- Secured APIs with a permission system using **Pundit**, protecting database from unauthorized users

### Newtopia Inc.

Jan 2021 – Apr 2021

Software Developer Intern

Toronto, Ontario

- Created new public API endpoints in **Apex** with **improved security** protecting **10000 monthly users**
- Refactored **React Native** android application with **TypeScript** and reduced **memory usage** by **25%**

### Manulife Financial (Technology Division)

May 2020 – Aug 2020

Salesforce Software Engineer Intern

Waterloo, Ontario

- Created a data aggregation framework in **Apex** and **SOQL**, diagnosing **over 33%** of **service issues**
- Used **HTML** and **JavaScript** to display **6000+ live logs** every day, featuring tables, graphs, and filters

## PROJECTS

### Custom C++ Ray Tracing Framework

Mar 2024

- Created a ray tracer featuring mesh intersection, shadows, Phong illumination, anti-aliasing, and reflection
- **Accelerated rendering time by 85%** using adaptive super sampling and bounding volumes

### Spatial.DJ | Build on Redis 2021 Silver Prize Winner

Apr 2021 – May 2021

- Built a web app where users can watch videos together, featuring dynamic volume based on avatar position
- Designed UI prototype using **Figma** and implemented responsive layouts using **React** and **Redux**

## SKILLS

- **Languages:** C++, C, Python, Java, Go, SQL, TypeScript, JavaScript, Bash
- **Technologies:** OpenGL, SYCL, PyTorch, Linux, Git, Perforce, Hadoop, Spark, Node.js, React, Redis, Agile, Jira