

Zhiyuan (Ludeus) Wang

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Education

University of Waterloo

3rd Year Bachelor of Mathematics, Major in **Data Science** (Co-op), **GPA: 90%**

Sep 2020 – Aug 2025

Waterloo, ON

Work Experience

Software Engineer | Huawei Technologies Canada Co.

Markham, ON

May – Present 2023

- Analyzing **LLVM** source code and conducting **Unit Tests** on benchmark's functions aiming at improving CPU performance.
- Generated **Python** and **bash** scripts to integrate new benchmarks into existing workflows.
- Key Accomplishment:** Optimized **LLVM** source code to improve SLP vectorization, reducing CPU perf count on benchmark function by **9%**

Web Developer | Horizn Studios

Toronto, ON

Sep – Dec 2022

- Generated **MySQL** views and procedures to streamline testing and improve functionality of projects
- Conducted local server tests using **MAMP** and **Behat** with **ChromeDriver** and utilized **Jenkins** for testing on development sites,
- Key Accomplishment:** Integrated existing methods in **Laravel** to perform CRUD operations on databases and modify website content easier, reducing required migration code by **40%**.

Selected Projects

eLibrary simulator | *Next.js, SpringBoot, MyBatis, MySQL, Git* | [Github](#)

- Developed a library website simulator using **Next.js**, **Springboot** and **MySQL** as an innovative team project
- Collaborated with the team to analyze the database schema and website functionality to identify key areas for **index** optimization.
- Most Challenging Feature:** Created **RESTful** API using **Spring MVC** and fetched data using **Axios**.

GoChat | *Golang, Next.js, Socket, AWS EC2, MongoDB* | [Github](#)

- Developed a Chat Server and Chat Client using **Golang** and **Next.js** and using **Socket** to communicate.
- Utilized **MongoDB** to store Chat history and User information.
- Deployed in **AWS EC2** with **Nginx** as a reverse proxy for server protection.

Knight-Maze 2D Game | *Unity, C#* | [Github](#) | [Blog](#)

- Developed 2D Unity side-scroller Game using **C#** and **UnityEngine**, exploring topics such as AI navigation, procedural animation
- Most Challenging Feature:** Implemented various components (prefab) such as boomerang, one-way platform and hide spike

Rogue-like Game | *C++, OOP, Design Pattern, Git*

- Designed and developed a **C++** game with **object-oriented programming** as an innovative team project.
- Implemented **Decorator** design pattern to enhance player abilities using different potions
- Most Challenging Feature:** Implemented **A* searching Algorithm** on Monsters Move method such that all monsters will chase player using the shortest path.

Technical Skills

Languages: Next.js, React, C++, Go, Java, Python, PHP, JavaScript, TypeScript

Tools: Linux, Bash, Git, Node.js, MySQL, MongoDB, Redis, Nginx, AWS(EC2 S3), Docker