

# Angel Zhang

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## Skills

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**Languages** C/C++, Python, JavaScript, TypeScript, HTML, CSS/Sass, Bash, SQL, R, LaTeX

**Frameworks & Tools** React, Angular, Node.js, Express.js, Visual Studio Code, Git, Linux, RStudio, GDB

## Education

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### University of Waterloo

Waterloo, ON

BACHELOR OF COMPUTER SCIENCE (CO-OP)

Sept. 2020 – Present

- **Cumulative Average:** 93%

## Experience

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### Compiler Software Engineer

Markham, ON

HUAWEI TECHNOLOGIES CANADA CO., LTD.

Jan. 2023 – Apr. 2023

- Streamlined compiler tuning processes and facilitated the exploration of optimization opportunities on multiple benchmarks by creating **Python** and **Bash** scripts
- Implemented a CI workflow using **Jenkins** and **Bash** scripts for development branches to ensure seamless merging with the main branch, and resolved issues in existing CI workflows
- Created a test suite using **lit** to replace outdated tests, resulting in a cost reduction of **300%**
- Identified and fixed bugs in existing **C++** code, resolving memory usage issues caused by defunct processes

### Compiler Software Engineer

Markham, ON

HUAWEI TECHNOLOGIES CANADA CO., LTD.

May. 2022 – Aug. 2022

- Developed an interface in **C++** to connect the compiler with a framework for optimization, enabling seamless data transfer between the two parties
- Identified and addressed inefficiencies in existing **Python** code, resulting in a **15x** cost reduction
- Created a code region feature extractor in **C++** and generated a dataset of **5000+** entries for ML model training
- Updated **Python** and **Bash** scripts to integrate new benchmarks into existing workflows

### IT Support Specialist

Waterloo, ON

TANGAM SYSTEMS

Sept. 2021 – Dec. 2021

- Designed and developed a **full-stack web application** using **Angular**, **TypeScript**, **Sass**, and **Node.js** from scratch, serving as the company's new IT support request form, and employed **PrimeNG** to create a user interface
- Performed monthly maintenance and upgrades for servers, ensuring that they are in optimal conditions

## Projects

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### World Cup Data

JAVA, JDBC, SQL

- Collaborated with three other students and developed an application that allows users to learn about World Cups
- Employed a **SQL database**, designed database schema and wrote **SQL queries** for data storage and retrieval
- Created an command-line interface using **Java**, and utilized **JDBC** for seamless client-server interactions

### WLP4 Compiler

C++

- Developed a compiler for WLP4, a programming language that contains a subset of the features of C++
- Implemented a lexical scanner, a syntax parser, a semantics analyzer, and a MIPS assembly generator

### Constructor

C++

- Developed a multiplayer command-line based game inspired by The Settlers of Catan with two other students
- Employed various **OOP principles** such as **encapsulation** and utilized the **MVC design pattern**