Zhiyuan Wang

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Education

University of Waterloo   **Sep 2020 – Aug 2025**

4th Year Bachelor of Mathematics, Major in **Computer Science & Statistics** *(Co-op)*   *Waterloo, ON*
- Cumulative Math and CS courses **GPA: 90%**
- Courses: Algorithms, Machine Learning, Operating Systems, Distributed Systems

Work Experience

Software Engineer Intern | Ripple   **Toronto, ON | May – Aug 2024**

Technologies: C++, JavaScript, Python, Cassandra, Docker, Blockchain
- Overhauled **C++** code by crafting a new API and optimized existing code. This initiative allows loading expired ledgers from the XRP blockchain without the need to dig through transaction history, significantly saving customers' time in around **10** minutes
- Joining an agile team to develop Clio, xrp.js, xrp.py, creating new features to improve backend performance

Software Engineer Intern | MORSE Consulting   **Toronto, ON | Jan – Apr 2024**

Technologies: Python(Flask), AWS EC2, Machine Learning
- Designed a content scraping system from scratch to allow scheduled data scraping on various websites and auto-correction on invalid scraped data with **OpenAI API**. This saves **1 hour** of the developer's time on refreshing data each week
- Implemented new backend APIs and optimized data processing algorithms using **Python**. The code improved pre-processing efficiency by **75%**

Software Engineer Intern | Huawei Technologies Canada Co.   **Markham, ON | May – Aug 2023**

Technologies: C++(LLVM), Python, Docker, Git, VM
- Analyzed and optimized Bisheng **LLVM** compiler, including conducting **regression tests** on CPU performance assessment, and optimizing **C++** source code on SLP vectorization. This reduced CPU perf count on benchmark function by **20%**
- Generated **Python** and **bash** scripts to integrate new benchmarks into existing workflows and make testing easier. The scripts save **2 hours** of developer's time each week
- Streamlined codebase by eliminating redundancy by breakpoint testing, resulting in a **300-line** code reduction

Software Engineer Intern | Horizn   **Toronto, ON | Sep – Dec 2022**

Technologies: PHP(Laravel), MySQL, React, AWS S3, Jenkins
- Revamped legacy **React** code by crafting reusable, scalable, and mobile-responsive components that are now utilized throughout the platform. This initiative enhances code maintainability and significantly reduces time spent resolving component-related issues
- Optimized **Laravel** code by seamlessly integrating existing database operation methods, resulting in a **40%** reduction in required migration code

Projects

AI-Driven InsightCraft *| React, Springboot, RabbitMQ, Redis, PostgreSQL, Restful API, Full-Stack |* ⬡ *Github*
- Developed an intelligent data analysis platform leveraging **Springboot** and **React** (**Ant Design** and **TypeScript**). Users can send raw Excel data and specific analysis requests to the platform, and then receive visual data charts and analysis from **AIGC** (AI-Generated Content). This streamlines the process for data analysts on EDA
- Utilized **OpenAI API** and encapsulated user-input data and analysis requests with customized **Prompts**. Generated **JSON configurations** for **ECharts** and analysis conclusions, delivering results for frontend rendering
- Customized **I/O-intensive thread pool** and **task queue** (by **JUC** and **RabbitMQ**), achieving concurrent execution and asynchrony for AIGC, enabling immediate frontend responsiveness upon task submission and improving user experience

Technical Skills

Languages: C++, Python3, Racket, React(Next.js), JavaScript(Node.js), Java(Springboot)
Tools: Linux, Git, MySQL, Redis, MongoDB, AWS, Docker, Nginx, Jenkins, Jira, Unity