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, Cryptography

Work Experience

Software Engineer Intern | Ripple   **San Francisco, CA | May – Aug 2024**
Technologies: C++, JavaScript, Python, Cassandra, Docker, Blockchain
- Overhauled **C++** code for XRP Ledger API server to retrieve expired ledger object information directly from the blockchain. This bypasses transaction history searches, reducing data retrieval time for customers by approximately **10 minutes**
- Optimized codebase and **Cassandra** query to enhance cache utilization, reducing the required data access with the database. This improves the retrieving speed by **10%**
- Authored **JavaScript** and **Python** code to support xrpl library for interacting with XRP ledger, including API support and comprehensive **integration tests**

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 optimizing **C++** source code on SLP vectorization and conducting **regression tests** on CPU performance assessment. This reduced CPU perf count on benchmark function by **20%**
- Streamlined codebase by eliminating redundancy through breakpoint testing, resulting in a **300-line** code reduction

Software Engineer Intern | MORSE Consulting   **Toronto, ON | Jan – Apr 2024**
Technologies: Python(Flask), AWS EC2, Machine Learning
- Built 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 automation 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 | 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, Cassandra, Redis, MongoDB, AWS, Docker, Nginx, Jenkins, Jira, Unity