Zhiyuan Wang

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Education

University of Waterloo   **Sep 2020 – Aug 2025**
*3rd Year Bachelor of Mathematics, Major in **Data Science** (Co-op)*   *Waterloo, ON*
- Cumulative Math and CS courses **GPA: 90%**
- Courses: Machine Learning, Database Management, Cryptography, Data Structure and Algorithm

Work Experience

Software Engineer | **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 through **GDB** breakpoint testing and SLP theory analysis, resulting in a **300-line** code reduction

Web Developer | **Horizn**   **Toronto, ON** | **Sep – Dec 2022**
Technologies: PHP(Laravel), MySQL, React, Git, AWS S3, MAMP, Jenkins, Jira
- 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
- Implemented automated testing using **Behat** in conjunction with **ChromeDriver**. Integrated tests into **Jenkins'** CI/CD pipeline

Selected 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 APIs** 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

NovelNest | *Next.js, JavaScript, Python, Vercel* | ⬡ *Github* | 🌐 *Website*
- Developed a novel-collection website using **Next.js**, empowering users to read novel with customized font size, making a comfortable reading experience
- Utilized **Python** with **BeautifulSoup** to extract novel content from various websites
- Utilized **Incremental Static Regeneration** to optimize the building time from 5 mins to a few seconds

GoChat | *Golang, Next.js, socket, Nginx, AWS EC2, MongoDB, Docker* | ⬡ *Github*
- Crafted a Chat Room, empowering users to seamlessly join real-time conversations utilizing **Golang** and **Next.js**, all powered by **Socket communication**
- Deployed in a **AWS EC2** instance using **Docker** and enabled **Reverse Proxy** to effectively manage and route requests to the application server using **Nginx**, ensuring optimal resource utilization, and improved security.

Technical Skills

Languages: Java(Springboot), C++, Golang, React(Next.js), JavaScript(TypeScipt, Node.js), Python3, C#
Tools: Linux, Git, MySQL, Redis, RabbitMQ, MongoDB, AWS S3 EC2, Docker, Heroku, Nginx, Jenkins, Jira, Unity