Zhenghong Chen

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Education

University of Waterloo — **Waterloo, Kitchener**
Candidate for Honours Bachelors of Mathematics — *2023-2028*
- **CGPA:** 3.7/4.0
- **Coursework:** Data Structure and Algorithms, Object-Oriented Software Development, Linear Algebra & Calculus.
- **Awards:** AP Scholar Distinction, University of Waterloo President Scholarship.

IBM Full Stack Software Developer — **Coursera**
Professional Certificate — *May 2024 - August 2024*
- **Grade:** 100/100.
- **Coursework:** Cloud Computing / Front-End with React / Back-End with Node.js and Express / Django Development with SQL and Databases / Intro to Containers, Docker, Kubernetes & OpenShift / 7 more courses.

Experience

Software Engineer — **September 2024 - Present**
Waterloo Rocketry Software Division — *University of Waterloo*
- **Communicate** with stakeholders and maintain off-board software used by other Rocketry subsystems.
- Maintaining our **unified monitoring system** which digests data from multiple sources on the rocket.

Quality Assurance (Game Testing) — **May 2024 - July 2024**
Shanghai Renhe Network Technology Co.,Ltd — *Shanghai, China*
- Overhauled the game with functional and non-functional manual black-box tests by executing **500+** test cases.
- Discovered **30+** BUGS and assisted developer diagnosing by offering intuitive **debugging recommendations**.
- Facilitated communications between DevOp, Art, Developer with clear conversation, boosting product quality by **15%**.

Club President — **2021-2022**
AP Computer Science Club — *Huamei-Bond International College*
- Hosted in-person lectures with **50+ attendees** each aimed at assisting G11 students preparing for **AP CSA Exam**.
- Hosted multiple **Data structure & Algorithm** tutorials provided from upper-year students to lower-year students.
- Conducted weekly meetings to discuss the latest programming-related news and ideas for team and personal projects.

Projects

Auto Finder - Full Stack Web App — **May 2024 - August 2024**
- Built a responsive web page utilizing **React components** and **HTML/CSS** to create an interactive user interface.
- Implemented user authentication functionalities following **MVC pattern** using **Django framework**.
- Leveraged **NLP sentiment analyzer** on user reviews to enhance feedback experience with three different attitudes.
- Developed **scalable** software solutions by leveraging **Docker** for seamless containerization and **Kubernetes** for efficient orchestration, achieving a **30% reduction** in infrastructure costs and streamlining deployment processes.

macrochen05.top - Personal Blog Website — **July 2023 - Present**
- Built a full-stack dynamic blog website utilizing **Node.js** environment, **Hexo** framework, and **Git** for version control.
- Optimized access speed via leveraging **cloud** platform, **Vercel**, to deploy and host the website quickly and scalably.
- Architected commentaries section powered by **MongoDB**, enabling users to make real-time replies to related content.

Automatic Laundry Robot - First Place Hackathon Project — **October 2021**
- Designed an eco-friendly, IOT, automatic laundry robotic system using LEGO blocks, physical sensors, and motors.
- Implemented a **voice-over** controlling system powered by **PyAudio**, allowing users to transmit verbal commands.
- Constructed **serial communication** between software and hardware using the **UART library**.

Technical Skills

Languages: JavaScript, HTML/CSS, C/C++, Java, Python, Racket, YAML, Markdown
Technologies and Frameworks: React.js, Node.js, Django, Flask, Spring Boot, Bootstrap, SQLite, MongoDB, Express, OpenShift, Linux, Git, Docker, Kubernetes, Postman, Valgrind, GDB, REST API, Bash, Pandas, NumPy, PyAudio