

# Ming Zheng Liu

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## Profile & Skills

Motivated and detail-oriented Full-stack Developer with over 4 years of experience in software development and testing. Proven expertise in website and application development, data-driven decision making. Also bringing a unique blend of creativity and aesthetics as a freelance illustrator and website designer.

**Programming:** Python, Java, C, R, Database Management (MySQL, PostgreSQL, MongoDB), Web Development (crawler, Restful API, HTML/CSS/REACT), LangChain (LLMs)

**Data Analysis:** R, SQL, spreadsheet/Advanced Excel(vlookup, pivot table), with Google Data Analytics Certificate

**Tools:** Git, GitHub Actions (CI/CD), Google Cloud Platform (GCP), Docker, AWS

**Languages:** Professional Communicating in English and Native Speaker of Mandarin. Can understand French.

## Education

**University of Toronto, St. George Campus, Honours Bachelor of Science** **Toronto, ON**  
*Computer Science Major, Bioinformatics and Computational Biology Specialist, Physiology Major* Sep 2018 - Nov 2023

## Professional Experiences

**Self-Employed** **Toronto, ON**  
*Freelance Designer & Illustrator* May 2020 – Present

- Worked in collaboration with industry professionals on various advertisement, website and marketing projects.

**Cox System Biology Lab, University of Toronto** **Toronto, ON**  
*Pipeline Developer* May 2023 – Aug 2023

- Automated data pipelines in R/RNotebook, enhancing preeclampsia subtype identification research across extensive patient datasets.

**Lin System Neuroscience Lab, University of Toronto** **Toronto, ON**  
*Deep Learning Data Analyst* Sep 2022 – May 2023

- Led a team of 3 to build a virtual reality system for studying fish spatial recognition and navigation in Unity.
- Developed a python program that automatically extracted key features from videos enhancing the data collection and analysis.

**Center for Disease Control and Prevention in Fujian (FJCDC)** **Fuzhou, Fujian**  
*Emergency Response Support Intern, China* Sep 2021 – Jan 2022

- Worked in a group to respond to local pandemic outbreak. Developed an efficient excel database to record epidemiological data.

**Project Experiences.....**

**Table Occupancy Visualization Web Application**  
*React, TypeScript, UI/UX Design,* Aug 2024 – Sep 2024

- Developed an intuitive restaurant table occupancy tool with dynamic layout customization.
- Enabled users to add tables, group them by rooms, and track total capacity in real-time.
- Provided real-time waiting time calculations for new guests, optimizing seating management.

**Art Gallery Website Full Stack Development**  
*Python, MongoDB, Restful API, REACT and LangChain* Apr 2024 – Jul 2024

- Built a personal website for all artist creations and illustrations for an online exhibition using REACT.
- Incorporated LangChain and GPT4 for automatically crawling data from artist social media to dynamically update the latest art.
- Implemented MongoDB for robust back-end data management, allowing for efficient storage and retrieval of artwork information.
- Designed and developed RESTful APIs using Python to facilitate seamless data interchange between the front-end and database.

**Friend Chatting Server Application**  
*C and Unit Testing* Jan 2023 – May 2023

- Used machine-oriented programming and BASH shell programming to develop a chatting software in Linux OS server.
- Utilized GDB debugger for effective troubleshooting and code optimization, resulting 100% test cases passing rate.

**Restaurants Review Application**  
*Java and MySQL* Sep 2020 – Dec 2020

- Led a small team to develop a restaurant rating and reviewing software using Java with Clean Architecture in designing code.
- Utilized MySQL for database management, ensuring efficient data storage, retrieval, and manipulation.
- Developed and maintained automated testing frameworks, reducing manual testing efforts by 40%.
- Performed regression testing for each software release, analyzing results to identify critical areas for improvement.

## Volunteering

**VHA Health Care** **Toronto, ON**  
*Administrative Support Volunteer, Canada* Apr 2024 – Present

- Interacted with patients in a professional and caring manner, supporting the organization and administration of a clinic.