

Helen Weixu Chen

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Education

University of Waterloo

Bachelor of Computer Science, Co-op.

1 Term Dean's Honours List + 7 Term distinction

Waterloo, ON

Sept 2019 - present

Work Experience

Rochester Institute of Technology

Rochester, NY

Undergraduate Research Assistant

April 2024 – present

- Collaborated with two Ph.D. students under the supervision of [Prof. Eric Williams](#), [Dr. Stacey Watson](#), and [Prof. Tom Oh](#) on Managing Privacy and Environment for Used and End-of-Life Electronic Devices.
- Designed **user studies** to evaluate the ease or difficulty of wiping data and the comfort level of participants with the process and its outcomes.
- Developed a plan to order electronic devices within a budget of USD 6000 based on their importance ranking, derived from analyzing survey data.

University of Waterloo

Waterloo, ON

Undergraduate Research Assistant

May 2023 – present

- Collaborated with [Prof. Lesley Istead](#) on optimizing user-provided string prompts for **generative AI tools**, streamlining the process for efficiently generating desired images.
- Built a user-friendly **web-based UI** using **React** by automating repetitive tasks and reducing the need for prompt-engineering from the user.
- Engineered and implemented a **back-end API server in Java**, seamlessly integrating it with the **web-based UI**.
- Connected **Apache Derby** to manage data, ensuring efficient storage and retrieval.
- Collaborated in researching and understanding prompt generation patterns and model development using **decision trees**.
- Authored and prepared essential documentation for a **research license application**, under the guidance and mentorship of [Prof. Istead](#).
- Co-authored the **research paper "Imagine a Dress": Exploring Task-Specific Prompt Assistants for Text-to-Image AI Tools**, which has been accepted by **Graphic Interface 2024 conference**.

University of Waterloo

Waterloo, ON

Undergraduate Research Assistant

Dec 2023 – present

- Conducted research under the supervision of [Prof. Dan Brown](#) and [Prof. Maura Grossman](#), focusing on a CS education project to determine whether teaching material on computing and discrimination is more effective online or in a face-to-face classroom.
- **Recruited research participants** among students enrolled in [CS492 \(The Social Implications of Computing\)](#), enhancing the study's reach and diversity.
- Implemented and configured survey questions on the **Qualtrics** platform, guaranteeing unique access links for each participant.
- Efficiently **distributed and collected research materials**, including **consent forms** and **pre- and post-study questionnaires**, ensuring comprehensive participant engagement and data accuracy.
- Regularly attended two classes weekly, performing in-depth **written observations** to contribute vital **qualitative data** to the research process.
- Analyzed collected data and summarized findings into two papers. These papers are currently under draft and are planned to be submitted to the [SIGCSE Technical Symposium 2025](#) by July 2024.

University of Waterloo

Waterloo, ON

Undergraduate Research Assistant

Sept 2023 – Dec 2023

- Collaborated with two undergrad co-workers to define an **HCI** and **AI** problem statement for **using chatbots to reveal personal biases in decision-making**, under the guidance of graduate mentor Kris Frasheri, and jointly brainstormed potential solutions.
- Conducted comprehensive **literature reviews** to build a strong foundation for the project.
- Orchestrated the project planning process, encompassing both **high-level strategies** and the creation of **low-fidelity** wireframes and mockups, thus setting the stage for our research's practical steps.
- Collaboratively composed a **project proposal** presented a unified vision and strategy for our research initiative.

Thomson Reuters

Toronto, ON

Data & Analytics Engineer Intern

May 2022 – Dec 2022

- Contributed to the Corporate Tax Department by assisting in the development of the **ONESOURCE Indirect Tax** feature, enhancing automation and accuracy in tax and finance workflows, from calculation to final remittance and compliance.
- Successfully resolved approximately 120 tickets, which led to a 50% decrease in support calls related to navigation issues.
- Enhanced 12 **Java APIs** and created six new **APIs** to significantly improve functionality.
- Integrated **BigQuery** into the **NGRA-API** module, transforming the Deal reporting process with advanced data analytics and enabling deeper and actionable insights.
- Automated **database** table maintenance and cleanup utilities processes for efficiency.
- Produced comprehensive documentation, including **UML** and **Sequence Diagrams** for all **REST APIs** and programs, significantly aiding colleagues in understanding the software architecture.

University of Waterloo

Waterloo, ON

Instructional Support Assistant (ISA)

Sept 2021 – present

- Served as an ISA (part-time/full-time) across six terms, supporting over 2,000 students in four key Computer Science courses:
 - **CS138 (Introduction to Data Abstraction and Implementation)** part-time ISA Winter 2024
 - * Conducted weekly office hours, offering a guiding light to students on **C++** questions and debugging challenges, fostering a deeper understanding and smoother coding journey.
 - **CS137 (Programming Principles)** full-time & part-time ISA Fall 2023 & Fall 2022
 - * Orchestrated and delivered engaging 50-minute weekly tutorials on **C programming** to an audience of over 70 students, sparking curiosity and knowledge.
 - * Actively engaged in Piazza, resolving over 200 **C programming** queries, becoming a pivotal knowledge resource for the student community.
 - **CS136L (Tools and Techniques for Software Development)** part-time ISA Spring 2022
 - * Assisted instructors in course design, encompassing the creation of content for the **IDEs** modules and comprehensive review of the **Memory Checkers** and **Debuggers** modules.
 - * Developed the course website by employing **HTML**, **JavaScript**, and **CSS** experience.
 - **CS116 (Introduction to Computer Science 2)** part-time & full-time ISA Winter 2022 & Fall 2021
 - * Innovated **Linux shell scripts** for efficient testing of student code and streamlined assignment grading, optimizing the evaluation process.
 - * Utilized **HTML** to edit course content and post annotations on EdX.
 - * Hosted weekly office hours, decoding **Python's** mysteries for students and guiding them through debugging, enhancing their programming acumen.
- **Evaluations from students** for the courses I assisted with are available [here](#). These **evaluations** were compiled by the Instructional Support Coordinator [Scott King](#) at the end of the term.