

Helen Weixu Chen

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EDUCATION

University of Waterloo

Bachelor of Computer Science, Co-op.

1 Term Dean's Honours List + 8 Term Distinction

Undergraduate Research Fellowship (**\$12,000**)

Waterloo, ON

Sept 2019 - present

PUBLICATIONS

[C1] **Chen, HW.***, Istead, L.* 2024. "Imagine a Dress": Exploring the case of task-specific prompt assistants for text-to-image AI tools. In *Proc. of the 50th Graphics Interface Conference (GI '24)*. 8 pages.

[P1] **Chen, HW.**, Grossman, M., Brown, D. 2025. Self-Disclosure and Beyond: Takeaways from an Online and In-Person Computing Ethics Course. In *Proc. of the 56th ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE TS 2025)*. 2 pages. (Accepted on Nov 18, 2024)

[C2] **Chen, HW.**, Grossman, M., Brown, D. 2025. Open Dialogue: Exploring Self-Disclosure in Online and In-Person Computer Ethics Education. In *Proc. of the 25th Innovation and Technology in Computer Science Education V. 1 (ITiCSE 2025)*. 7 pages. (In Submission)

WORK EXPERIENCE

University of Waterloo

Undergraduate Research Assistant @WatVis

Waterloo, ON

Sept 2024 – present

- Collaborating with Ph.D. student [Yuzhe You](#) under the supervision of [Prof. Jian Zhao](#) to explore how Large Language Models (LLMs) can be gamified to teach non-technical users about Explainable AI (XAI).
- Developed and evaluated interactive user tasks based on **SHAP** and **BertViz** deep learning visualizations, integrating **gamified LLMs** for effective teaching.

Undergraduate Research Assistant @Exii

June 2024 – present

- Working with Ph.D. candidate [Matthew Lakier](#) under the guidance of [Prof. Daniel Vogel](#) to study the impact of superpower priming and representation on user interactions in **VR** environments.
- Designed and implemented a **Unity-based** docking task using the Giant Hand to evaluate its effectiveness as a superpower element in improving user engagement within **VR**.

Undergraduate Research Assistant @MPAIL

July 2024 – Oct 2024

- Collaborated with [Prof. Lesley Istead](#) on a project evaluating diversity in the Canadian Film/TV/VFX industries.
- Analyzed data from **10,000+** LinkedIn profiles using **Tableau** and **Python**, examining diversity metrics including education, ethnicity, and gender.
- **Authored** key sections of the research paper, including Introduction, Related Work, and parts of Methodology and Results.

Dalhousie University

Undergraduate Research Assistant @HCI4GOOD

Halifax, NS

July 2024 – present

- Led research on how different feedback and design mechanisms impact conversational tone learning outcomes, in collaboration with [Prof. Rina Wehbe](#).
- Designed and prototyped three innovative tools for tone learning: a gamified emotive feedback system, a gamified symbolic feedback system, and a traditional multiple-choice format.
- Successfully completed the **research ethics license** application and initiated protocol implementation using **React**.

Université de Montréal
Software Developer

Montréal, QC
May 2024 – Aug 2024

- In collaboration with [Prof. Ian Arawjo](#), developed [ChainForge EvalGen 2.0](#) to further improve prompt evaluation and next-generation model generation capabilities.
- Authored thousands of lines of **TypeScript** code to enhance the functionality and reliability of **Natural Language Processing** applications.

Rochester Institute of Technology
Undergraduate Research Assistant

Rochester, NY
April 2024 – present

- Collaborating with two Ph.D. students under the supervision of [Prof. Eric Williams](#), [Prof. 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 difficulty of wiping data and the comfort level of participants with the process and its outcomes.

University of Waterloo
Undergraduate Research Assistant @MPAIL

Waterloo, ON
May 2023 – June 2024

- Supervised by [Prof. Lesley Istead](#), optimized user-provided string prompts for **text-to-image generative AI tools**, improving image generation efficiency and analyzing prompt patterns using **decision trees**.
- Built a **TypeScript** and **Java**-based prompt assistant tool to assist users in creating prompts, integrating **Apache Derby** for efficient data management.
- **First-author** and **presenter** on the paper "[Imagine a Dress](#)": Exploring Task-Specific Prompt Assistants for Text-to-Image AI Tools at **GI'24**.

Undergraduate Research Assistant

Dec 2023 – present

- 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, configured and implemented survey questions on the **Qualtrics** platform, managed data collection, took weekly observation notes, and analyzed the data to derive actionable insights.
- **First-authored** a **poster accepted** for presentation at SIGCSE '25 and a **paper** currently under submission.

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 Frasher, and jointly brainstormed potential solutions.
- Conducted **literature reviews** to solidify the project's foundation and created **low-fidelity** wireframes and mockups.
- Collaboratively developed and presented a comprehensive **project proposal** outlining strategies and solutions.

Thomson Reuters
Data & Analytics Engineer Intern

Toronto, ON
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 **6 new APIs** to 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 **7** semesters, supporting over **2,000** students in **4** key Computer Science courses:
 - **CS138 (Introduction to Data Abstraction and Implementation)** part-time ISA Winter 2024
 - * Assisted students during weekly office hours with coursework related to **C++ debugging, object-oriented programming**, and **design patterns**.
 - * Proctored and graded midterms and final exams.
 - **CS137 (Programming Principles)** full-time & part-time ISA Fall 2024 & Fall 2023 & Fall 2022
 - * Delivered weekly tutorials for **2** sections, each with over **70** students, covering **C** programming, **memory allocation**, **recursion**, and other core concepts to help students better understand and practice lecture material.
 - * Authored comprehensive resources, including a **13-page** style guide, an **11-page** syntax error guide, and a **36-page** Valgrind tutorial with **10** examples, to help first-year software engineering students improve **C** programming skills and debugging efficiency.
 - * Answered over **200** course-related questions on Piazza, providing timely assistance and creating a supportive learning environment.
 - **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 using **HTML**, **JavaScript**, and **CSS**.
 - **CS116 (Introduction to Computer Science 2)** part-time & full-time ISA Winter 2022 & Fall 2021
 - * Created **Linux shell scripts** to optimize code testing and grading workflows.
 - * Utilized **HTML** to edit course content and post annotations on EdX.
 - * To enhance their understanding and programming skills, hosted weekly office hours, guiding students through **Python** concepts.
- **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.

LEADERSHIP & VOLUNTEER ACTIVITIES

University of Waterloo

Waterloo, ON

Don @WUSA Off-campus community

Sept 2022 – April 2023

- Provided mentorship and guidance for first-year students living off-campus, helping them navigate academic challenges, adjust to university life, and utilize campus resources for a smooth transition into their university journey.

Orientation Leader

Aug 2021 – Sept 2021

- Led new students during Orientation, managing activities from food delivery to campus tours, ensuring a welcoming introduction to university life.

Peer Mentor

Sept 2020 – Dec 2020

- Guided first-year students in the Faculty of Health by answering questions, connecting them with campus resources and services, and offering social support.

Waterloo Public Library

Waterloo, ON

Volunteer

Nov 2019 – Dec 2019

- Collaborated with a team of 4 to design and lead origami workshops, sparking creativity and fine motor skills development in children aged 3 to 10.