Amber Richardson

amber.richardson@mail.utoronto.ca • amberlynnr33.github.io

Research Interests

Computing Education, Machine Learning Education, Self-Regulated Learning, Development of Educational Tools and Instruments, First-Year Transition, Transfer, Intersection of Computing and Communication

Education

2022 – Present   **University of Toronto Mississauga** – Mississauga, Ontario
HBSc in Computer Science, Minors: Mathematical Sciences, Professional Writing and Communication
Dean's List Scholar: 2023, 2024, 2025

Honors and Scholarships

2022   Bennett Scholar
Awarded based on financial need for being a first-generation student. Award value: $10,000.

2022   Ontario Hockey Association War Memorial Scholarship
Awarded based on academic merit and financial need for being a descendant of a Canadian Armed Forces member that served in an overseas war. Award value: $2250 over four years.

2022   Principal's Entrance Award
Awarded for a high school graduating average of over 95%. Award value: $12,000 over four years.

Publications (Papers)

2025   **Interactive Effects of Prior Experience and Gender on Self-Efficacy and Achievement in CS1.**
Khushi Malik, **Amber Richardson**, Michelle Craig, and Andrew Petersen. 2024.
In Proceedings of the 2025 ACM Conference on International Computing Education Research - Volume 1 (ICER 2025)

2025   **Student Perspectives on the Challenges in Machine Learning.**
Naaz Sibia, **Amber Richardson**, Alica Gao, Andrew Petersen, and Lisa Zhang.
In Proceedings of the 2025 Conference on Innovation and Technology in Computer Science Education V.1 (ITiCSE 2025),

Publications (Posters and Presentations)

2025   **Reducing Isolation through Peer-Modeled Posts.**
Naaz Sibia, Angela Zavaleta Bernuy, **Amber Richardson**, Khushi Malik, Prajna Pendharkar, Carolina Nobre, Michael Liut, and Andrew Petersen.
56th ACM Technical Symposium on Computer Science Education V. 2,

2024   **Tracing Transfer: Preliminary Results of a Longitudinal Study of Teaching First Year Writing for Transfer.**
Mark Blaauw-Hara, Sarah Seeley, Amelie Desroches, Sabeen El Mougabatt, Shona Goodkin, and **Amber Richardson**.
Canadian Association for the Study of Discourse and Writing/Association Canadienne de Rédactologie, 2024.

Research Coursework

Fall 2025 - Winter 2026   **Student, CSC499: Enhancing Introductory Computer Science Education through Interactive Visualizations (University of Toronto)**
Supervisor: Professor Michael Liut
Details to be announced.

Fall 2024 - Winter 2025   **Student, CSC399: Evaluation of Educational Interventions in Computing (University of Toronto)**
Supervisor: Professor Andrew Petersen
Produced a research paper for ICER 2025 on gender and prior experience's impact on self-regulated learning and performance in CS1. Utilized path analysis, correlations, t-tests, mixed ANOVA, and EFA to analyze survey data.

Fall 2023 - Winter 2024   **Student, ISP299: Exploring Undergraduate Student Experiences with Writing (University of Toronto)**
Supervisors: Professor Sarah Seeley and Professor Mark Blaauw-Hara
Assisted in research on the longitudinal impacts of a first-year writing course. Conducted semi-structured interviews with two students, cleaned transcripts, and completed thematic analysis.

Research Experience

Summer 2025   **Research Assistant, Computing Education (University of Toronto)**
Supervisor: Professor Andrew Petersen
Developed an discussion board chatbot using retrieval-augmented generation to be deployed in an introductory computer programming course. Collected resources, fine-tuned the model, and produced documentation for the bot.

Summer 2024 - Summer 2025   **Research Assistant, Machine Learning Education (University of Toronto)**
Supervisor: Professor Lisa Zhang
Assisted in two studies on the interests and challenges of students in an introductory machine learning course. Completed thematic analysis on a dataset of over 5000 responses. Led a follow-up study on differences between subpopulations, overseeing statistical analysis and paper writing.

Winter 2024 - Winter 2025   **Research Assistant, First Year Writing (University of Toronto)**
Supervisors: Professor Sarah Seeley and Professor Mark Blaauw-Hara
Assisted in two studies examining the impacts of a First-Year Writing course. In one study, facilitated four focus groups and cleaned transcripts. In the other study, continued research from ISP299 in a paid capacity.

Teaching Experience

Fall 2025   **Teaching Assistant, CSC108: Introduction to Computer Programming (University of Toronto)**
Coordinator: Professor Michael Liut
Led two laboratory sections of 40-50 students on the basics on computer programming. Invigilated the midterm and exam, and graded these assessments.

Winter 2025   **Head Teaching Assistant, CSC209: Software Tools and Systems Programming (University of Toronto)**
Coordinator: Professor Andrew Petersen
Supported 21 lecture and lab TAs with their weekly activities on system programming concepts in C. Organized grading and office hour schedules. Invigilated the course's midterm and exam.

Mentorship Experience

Summer 2025   **Research Mentor, Machine Learning Education Research (University of Toronto)**
Mentored two undergraduate students in the research process including conducting statistical tests and writing a literature review for a publication.

Fall 2024   **LAUNCH Leader, UTM020 LAUNCH: Science, Mathematics and Psychology (University of Toronto)**
Led weekly 2-hour sessions for 8 first-year undergraduates on soft skills and campus resources. Modified slides, activities and ice-breaker activities for my mentee's needs. Developed an entire session and facilitation guide on reading research papers and academic writing.

University Service

2025-Present   **CER Reading Group Co-Lead**
University of Toronto Mississauga
Engages with students and faculty in computing education analyzing a paper weekly. Leads sessions by summarizing a paper and moderating topics.

2024-2025   **Director of Operations**
Computer Science Student Community, University of Toronto Mississauga
Led the marketing and logistics branches of the club. Ensured consistent marketing of club activities across various platforms, and oversaw the development of advising and destressor events.

2023-2024   **Social Media Coordinator**
Computer Science Student Community, University of Toronto Mississauga
Managed the club's Instagram account, posting and responding to inquiries in a timely manner. Co-led the annual crochet destressor event through peers to crochet basics.