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Maxwell Keleher
Curriculum Vitae

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Education

2023-2027 (expected) *Doctor of Philosophy Computer Science*
School of Computer Science, Carleton University, Canada
Thesis: Towards a Sustainable Security Framework
Supervisors: Sonia Chiasson, Professor and David Barrera, Associate Professor

2021-2023 *Master of Computer Science Specializing in Human Computer Interaction*
School of Computer Science, Carleton University, Canada
Thesis: Exploring Privacy Implications of Devices as Social Actors
Supervisor: Sonia Chiasson, Professor

2016-2020 *Bachelor of Computing (Honours) Specializing in Computer Science*
School of Computing, Queen's University, Canada
Thesis: Fuzzy Expert System for Monochromatic Colouring of Video Subtitles
Supervisor: Robin Dawes, Associate Professor

Honours and Awards

2024 Carleton Computer Science Departmental Scholarship ($10,000 CAD)

2023 Natural Sciences and Engineering Research Council (NSERC) Doctoral Award (PGS D), 2023-26 ($120,000 CAD)

2023 (Nomination) University Medal for Outstanding Graduate Work

2023 Carleton Computer Science Departmental Scholarship ($10,000 CAD)

2023 Carleton Domestic Entrance Doctoral Scholarship ($3,000 CAD)

2022 Queen Elizabeth II Graduate Scholarship in Science & Technology (QEII-GSST) ($15,000 CAD)

2022 Carleton HCI Departmental Scholarship ($5,300 CAD)

2022 Dean's Honour List at Carleton University, indicating a cumulative GPA of 10.0 and higher

2022 Hendrika Alice Eisen Fund for attending CHI ($225 CAD)

2021 Carleton HCI Departmental Scholarship ($5,300 CAD)

2020 Dean's Honour List at Queen's University, indicating a cumulative GPA of 3.5 and higher

2016 Queen's University Excellence Scholarship for entrance average of 90%+ ($2,000 CAD)

Publications

2025 (In Submission) Baig, K., **Keleher, M.**, Chiasson, S. 2025. "It belongs to me": Biological Family Members' Perceptions of At-home DNA Testing. In Twenty-First Symposium on Usable Privacy and Security (SOUPS 2025). 20 pages

2025 **Keleher, M.**, Barrera, D., Chiasson, S. 2025. Balancing Security and Longevity: Benefits of Modular IoT Infrastructure. Proceedings of the New Security Paradigms Workshop (NSPW '24) 15 pages

2024 Marino, D., **Keleher, M.**, Chmielowiec, K., Hilliard, A., Dawidowski, P. 2024. Operator-Centered Design of a Nodal Loadability Network Visualization. 2024 Workshop on Energy Data Visualization (EnergyVis). 4 pages

2024 Zhang-Kennedy, L., **Keleher, M**., and Valiquette, M. 2024. Navigating the Gray: Design Practitioners' Mental Processes and Rationalization of Deceptive Design Patterns that Negatively Impact Privacy. Proceedings of the ACM on Human-Computer Interaction, Volume 8, Issue CSCW1 (CSCW). 23 pages

2022 **Keleher, M**., Westin, F., Nagabandi, P., Chiasson, S. 2022. How Well Do Experts Understand End-Users' Perceptions of Manipulative Patterns? In Nordic Human-Computer Interaction Conference (NordiCHI '22). 21 pages

2022 **Keleher, M.** 2021. Adaptive Colouring of Video Captions using a Fuzzy Expert System. National Conference on Undergraduate Research 2021 (NCUR 2021). 1 page abstract

Invited Talks

2023 Deceptive Patterns Guest Lecture, CART 310 by Dr Rilla Khaled, Concordia University, Montréal, QC

2023 CASA and Privacy Attitudes and Behaviours, CapCHI Student Showcase, Capital Computer-Human Interaction (CapCHI), Ottawa, ON

Other Research Projects

2024 Owning for a Good Time or a Long Time: Expectation of IoT Longevity and Reasons for Decommissioning (For COMP 5119)
Conducted a pilot study with a questionnaire about Internet of Things (IoT) device longevity expectations and disposal behaviours. I used the findings from this study to improve the questionnaire and run a study which was published in NSPW '24.

2023 AI or EhI: A Game Theoretical Analysis of Canada's Artificial Intelligence and Data Act (For COMP 5900G)
Conducted a game theoretical analysis of the proposed Artificial Intelligence and Data Act (AIDA) by modeling the act as an extensive form game between a system developer and an end-user.

2023 Looking Towards the Light: An Eye-Tracking Analysis of Deceptive and Bright Patterns (For COMP 5900F)
Designed and conducted a pilot eye-tracking study evaluating the usability of bright patterns as an alternative to deceptive patterns.

2022 Post-Secondary Student Perceptions of an Emotional AI For Promoting Self-Gratitude in On-line Learning with Z. Elizei, C. Karanassios, and A. Ouskine (For HCIN 5300)
We designed and evaluated 3 prototypes using a survey and semi-structured interviews. We analyzed our results with descriptive statistics and inductive thematic analysis.

2022 "I wasn't keeping track of movies anywhere": Cognitive offloading with Letterboxd (For HCIN 5100)
I conducted usability studies and semi-structured interviews to analyze the usability of the film-based social media website, Letterboxd. I used descriptive statistics and inductive thematic analysis to analyze my results.

2021 Understanding and Perceptions of Online Targeted Advertising with K. Chaudhry (For HCIN 5100)
We conducted semi-structured interviews to understand end-users perceptions and mental models of online targeted advertising. We performed inductive thematic analysis.

Research Experience

2021–Present Mixed Methods Research Assistant
Dr. Sonia Chiasson, Carleton University
I led a research project where I prepared the background literature, conducted the statistical analysis, and interpreted the results of a study about experts understand of end-users' perceptions of manipulative patterns. I was lead author of a paper written for this study which I presented at NordiCHI in Oct 2022. Currently, I am distilling my mixed methods masters thesis project into a journal paper. Also, I am assisting with qualitative analysis for a project about privacy attitudes towards at-home genetic testing.

2024 Mental Models Research Assistant
Dr. Sana Maqsood, York University
I am leading a project to investigate low socio-economic-status youths' mental models of their data privacy in social media. The project will involve conducting semi-structured interview and conducting reflexive thematic analysis.

2022 Qualitative Analysis Research Assistant
Dr. Leah Zhang-Kennedy, University of Waterloo
I conducted reflexive thematic analysis of 23 60-to-90-minute interview transcripts. I also worked with Prof Zhang-Kennedy to build a compelling narrative out of the analysis and helped her write a paper about the study which has been accepted at CSCW 2024.

Professional Experience

2024 UX & Human Factors Research Intern, Hitachi Énergie Canada Inc.
Digital Power Grid Center, Montréal QC
For my first project, I co-conducted interviews with experts to review a power grid visualization prototype and performed qualitative analysis of the interviews. On a second project, I conducted background research, including a prior art search, developed a data parsing tool, and designed low fidelity prototypes for a contingency analysis tool.

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2020–2021 Software Engineer, Microsoft
Microsoft Headquarters, Redmond WA
Designed, developed, and deployed a dashboard to detect and manage incidents. Conducted qualitative user studies to improve the dashboard. Designed, developed, and deployed a prototype dashboard to drive greater than 99% data quality across all regions.

2019 Entrepreneurship Intern, Dunin-Despande Queen's Innovation Centre
Queen's University, Kingston ON
I developed a company in 4 months with a team of 3 other students. I participated in workshops from experts in business and design, including user-centered design and systems design. Developed skills such as working in diverse groups, public presentations, and graphic/web design.

2018–2019 Student President, Queen's Computer Students Association
Queen's University School of Computing, Kingston ON
I attended and represented the association at meetings, including the School of Computing Council, Arts and Science Faculty Board, and Alma Mater Society. I also sat on the hiring panel for the School of Computing Orientation Chair and oversaw a budget exceeding $20,000.

2018 Full Stack Intern, Lytica Inc
Lytica Offices, Ottawa ON
I worked on migrating an automation project from PhantomJS to Java and Selenium. I developed a prototype web scraper that checked company websites for ISO certifications. I built admin dashboards with JavaScript libraries to allow for testing of both projects.

Teaching Experience

2024 Contract Instructor at Carleton University School of Computer Science
COMP 3008: Introduction to Human Computer Interaction (~150 students)
Prepared lecture videos; Prepared and conducted weekly workshops; Designed tests and final exam; Proctored tests and final exams.

2021–2023 Teaching Assistant at Carleton University School of Computer Science
COMP 3804: Design and Analysis of Algorithms I (~250 students), COMP 4108: Computer Systems Security (~70 students), COMP 3008: Introduction to Human Computer Interaction (~130 students), COMP 2402: Abstract Data Types and Algorithms (~400 students)
Marked tests, assignments, and exams; Held office hours; Led tutorial sessions; Proctored midterms and final exams.

2017-2020 Teaching Assistant at Queen's University School of Computing
CISC 235: Data Structures (~150 students), CISC 204: Logic for Computing Science (~250 students), CISC 102: Discrete Mathematics for Computing I (~200 students)
Marked tests, assignments, and exams; Held office hours

Volunteer Experience

2024 Communications Officer CapCHI Student Network
Ottawa, ON

2023–2024 Founding Organizer (Carleton Representative), CapCHI Student Network
Ottawa, ON

2023–2024 Student Volunteer, Capital Computer-Human Interaction (CapCHI)
Ottawa, ON

2019–2020	IT Officer, Queen's Women in Computing Kingston, ON
2018	Thinking about Drinking Orientation Training Facilitator, Queen's Alma Mater Society Kingston, ON
2017–2018	Academic Chair, Queen's Computing Orientation Week Kingston, ON
2017	Orientation Leader, Queen's Computer Orientation Week Kingston, ON

Committees

2025	Short Paper Reviewer, The ACM CHI Conference on Human Factors in Computing Systems
2024	Poster Review Jury, Twentieth Symposium on Usable Privacy and Security (SOUPS)
2023	Poster Review Jury, Nineteenth Symposium on Usable Privacy and Security (SOUPS)
2018–2019	Council Chair, Queen's Computing Students' Association, Queen's University
2018–2019	Member, Queen's Alma Mater Society Presidents' Caucus, Queen's University
2018–2019	Voting Member, Queen's Alma Mater Society Assembly, Queen's University
2017–2018	Council Member, Queen's Computing Students' Association, Queen's University
2017	Computing Representative, A. Benidickson Tricolour Award Selection Committee, Queen's University
2016 – 2017	First Year Representative, Queen's Computing Students' Association, Queen's University

Skills

Research	Qualitative research, Quantitative research, Mixed methods, Statistical analysis, Interviews, Surveys, Usability testing, Communication, Collaboration, Wireframing, UX design, Eye tracking, Human-computer interaction
Technical	Figma, R, Python, HTML, CSS, Javascript, React, Vue