Jay Henderson Curriculum Vitae

Pronouns: he/him
Nationality: Canadian

Email: jayhend [at] mun.ca
Website: jayhenderson.ca

Current Position

Assistant Professor
Department of Computer Science
Memorial University of Newfoundland

Overview

My research focuses on understanding how people interact with technology, typically through a "quantitative HCI" approach—objectively measuring human performance with both existing and emerging technologies. Recently, my work has explored interactions in mixed reality for productivity and interactions with generative AI. My fundamental computer science background paired with interdisciplinary training in psychology and mathematics has placed me in a unique position to make meaningful contributions to the field; evident through my numerous publications at top-tier venues.

Education

2021	PhD in Computer Science Thesis: Understanding Mode and Modality Transfer in Unistroke Gesture Input *University of Waterloo*
2016	BSc Hons in Computer Science (minors in Mathematics and Psychology) *Mount Allison University*

Professional Experience

2023 -	Assistant Professor *Memorial University of Newfoundland*
2025 -	Associate Graduate Faculty *University of Guelph*
2022 - 2023	Postdoctoral Fellow & Instructor *Carleton University*

2021 - 2022	Senior Research Scientist *Huawei Technologies Canada*
2019 - 2020	Research Scientist Internship *Meta Reality Labs (formerly Chatham Labs)*
2018 - 2019	Research Scientist Internship *Huawei Technologies Canada*
2017	Visiting Researcher *Inria, Lille*
2016	Software Engineer *Mysa Smart Thermostats*

Publications

*** **Note about venues**: in Human-Computer Interaction (HCI), conference proceedings are the preferred publication venues, being timelier and having the greatest impact (typical for experimental computer science). Top tier conferences require rigorous multi-stage review of manuscripts for archival proceedings.

Student authors are marked with an asterisk (*).

2025	Eric DeMarbre*, **Jay Henderson**, J. Felipe Gonzalez, Robert J Teather. 2025. *Effects of Virtual Controller Representation and Virtuality on Selection Performance in Extended Reality.* In Proceedings of the 2025 31st ACM Symposium on Virtual Reality Software and Technology (VRST '25). DOI: 10.1145/3756884.3766004. *(Acceptance rate: 27.1%)*
2024	Eric DeMarbre*, **Jay Henderson**, Robert J Teather. 2024. *Investigating Presence Across Rendering Style and Ratio of Virtual to Real Content in Mixed Reality.* In Proceedings of the 2024 ACM Symposium on Spatial User Interaction (SUI '24). DOI: 10.1145/3677386.3682098. *(Acceptance rate: 31%)*
2023	**Jay Henderson**, Ali Neshati, Wei Zhou, Daniel Vogel, Edward Lank. 2023. *Interaction Region Characteristics for Midair Barehand Targeting on a Television.* Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23). DOI: 10.1145/3544549.3585877. *(Acceptance rate: 34%)*
2023	Arman Hafizi*, **Jay Henderson**, Ali Neshati, Wei Zhou, Edward Lank, Daniel Vogel. 2023. *In-vehicle Performance and Distraction for Midair and Touch Directional Gestures.* In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). DOI: 10.1145/3544548.3581335. *(Acceptance rate: 28.4%)*

2022   **Jay Henderson**, Tanya Jonker, Edward Lank, Daniel Wigdor, Ben Lafreniere. 2022. *Investigating Cross-Modal Approaches for Evaluating Error Acceptability of a Recognition-Based Input Technique.* In Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. 6, 1 (March 2022), 22 pages.
DOI: 10.1145/3517262. *(Average acceptance rate: 22.5%)*

2020   **Jay Henderson**, Jessy Ceha, and Edward Lank. 2020. *STAT: Subtle Typing Around the Thigh for Head-Mounted Displays.* In 22nd International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '20). Association for Computing Machinery, New York, NY, USA, Article 27, 1–11.
DOI: 10.1145/3379503.3403549. *(Average acceptance rate: 23.1%)*

2020   **Jay Henderson**, Sylvain Malacria, Mathieu Nancel, and Edward Lank. 2020. *Investigating The Necessity Of Delay In Marking Menu Invocation.* In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20), Apr 25–30, 2020, Honolulu, HI USA. Association for Computing Machinery, New York, NY, USA, 1–13.
DOI: 10.1145/3313831.3376296. *(Acceptance rate: 24.3%)*

2019   **Jay Henderson**, Sachi Mizobuchi, Wei Li, and Edward Lank. 2019. *Exploring Cross-Modal Training via Touch to Learn a Mid-Air Marking Menu Gesture Set.* In Proceedings of the 21st International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '19). Association for Computing Machinery, New York, NY, USA, Article 8, 1–9.
DOI: 10.1145/3338286.3340119. *(Average acceptance rate: 23.1%)*

2019   **Jay Henderson**, Jeff Avery, Laurent Grisoni, and Edward Lank. 2019. *Leveraging Distal Vibrotactile Feedback for Target Acquisition.* In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19), May 4–9, 2019, Glasgow, Scotland UK. ACM, New York, NY, USA 11 Pages.
DOI: 10.1145/3290605.3300715. *(Acceptance rate: 23.8%)*

2017   **Jay Henderson**, Shaishav Siddhpuria, Keiko Katsuragawa, and Edward Lank. 2017. *Fostering large display engagement through playful interactions.* In Proceedings of the 6th ACM International Symposium on Pervasive Displays (PerDis '17). Association for Computing Machinery, New York, NY, USA, Article 20, 1–8.
DOI: 10.1145/3078810.3078818. *(Acceptance rate: 55%)*

Patents

2024   Wei Li, Che Yan, Soheil Kianzad, **Jay Henderson**. 2024. System, method and device for multimodal text editing. US Patent US11886801B1.

Awards and Funding

2024 - 2029   NSERC Discovery Grant
Valued at $155 000 for a 5 year period. ($31 000/year)

2024 - 2025   NSERC Discovery Launch Supplement
Valued at $12 500.

2023   Postdoctoral Fellow Professional Development Fund
Valued at $2000 for travel to ACM's 2023 CHI conference.

2017 - 2019   David R. Cheriton Graduate Scholarship
Valued at $20 000 for a 2 year period. ($10 000/year).

2016 - 2021   Math Graduate Student Award
Valued at $30 000 for a 5 year period ($6 000/year).

2016 - 2021   Graduate Student Research Travel Assistantship
Valued at $500 per conference for travel to CHI and MobileHCI.

Service

2025 -   MUN Faculty of Science EDI-AR Committee

2021 -   Program Committee (Associate Chair)
             Graphics Interface
             ACM's DIS (Designing Interactive Systems)
             ACM's CHI Late Breaking Work
             ACM's MobileHCI Late Breaking Work

2018 -   Peer Reviewer
             ACM CHI (Human Factors in Computing Systems)
             ACM MobileHCI (Mobile Human-Computer Interaction)
             ACM AutoUI (Automotive User Interfaces)
             ACM DIS (Designing Interactive Systems)
             ACM ISS (Interactive Surfaces and Spaces)
             ACM ETRA (Eye Tracking Research & Applications)
             ACM SUI (Spatial User Interfaces)
             IEEE ISMAR (International Symposium on Mixed and Augmented Reality)
             IEEE VR (Virtual Reality and 3D User Interfaces
             Elsevier IJCHS (International Journal of Human Computer Studies)
             IEEE THMI (IEEE Transactions on Human-Machine Systems)

2024   Organizing Committee (Virtual Chair and Local Chair)
             ACM ASSETS (Conference on Computers and Accessibility)

2019   ACM Name Change Committee
             Association for Computing Machinery
             As a transgender person, I was selected to serve on a committee that developed
             an overarching name change policy within all ACM publications.
             (https://www.acm.org/publications/policies/author-name-changes)

2019   CHI Conference Allyship Program
             ACM SIGCHI
             Served as a point of contact for attendees about equity. Selected for experience
             in equity-related activities, particularly, involvement in LGBTQ+ initiatives.

2017   CHI Conference Student Volunteer
             ACM SIGCHI

Teaching

2025 COMP 3150 – Introduction to Human-Computer Interaction
Instructor
Memorial University

2024 - 2026 COMP 4303 – Artificial Intelligence for Games
Instructor
Memorial University

2024 COMP 1001 – Introduction to Programming
Instructor
Memorial University

2023 ITEC 4011 – Artificial Intelligence for Digital Media
Instructor & Course Developer
Carleton University

2018 - 2020 CS 349 – Introduction to User Interfaces
Instructional Apprentice
University of Waterloo

2017 - 2019 CS 105 – Introduction to Computer Programming 1
Instructional Apprentice
University of Waterloo

2017 - 2018 CS 106 – Introduction to Computer Programming 2
Instructional Apprentice
University of Waterloo

2019 CS 449/649 – Human-Computer Interaction
TA
University of Waterloo

2016 CS 135 – Designing Functional Programs
TA
University of Waterloo

2016 COMP 1731 – Programming Techniques and Algorithms
TA
Mount Allison University

2015 COMP 2931 – Introduction to Systems Programming
TA
Mount Allison University

Supervision

PhD

2025 - 2029 M. Amin Molaei, PhD Student (CS)
Human-Computer Interaction Lab
Memorial University
Co-supervised with Oscar Meruvia-Pastor

MSc

2026 - 2028 Julian Chris Pickett, MSc Student (CS)
Human-Computer Interaction Lab
Memorial University
Co-supervised with Oscar Meruvia-Pastor

2025 - 2027 Jason Bere, MSc Student (CS)
University of Guelph
Co-supervised with David Flatla

2025 - 2026 Nishant Rathore, MSc Student (CS)
Human-Computer Interaction Lab
Memorial University

2024 - 2026 Daniel Jo, MSc Student (CS)
Human-Computer Interaction Lab
Memorial University

BSc Honours

2025 - 2026 Ahmed Julkernain, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

2025 Ridwan Akorede Abdulwaheed, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

2025 Arunav Saha, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

2025 Qiao Lu, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

2024 - 2025   Nishant Rathore, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

2024   Tushar Billakanti, BSc Honours Student (CS)
Human-Computer Interaction Lab
Memorial University

Other

2025   Ahmed Julkernain, SURA Student (CS)
Human-Computer Interaction Lab
Memorial University

2023   Eric DeMarbre, MSc Student (Informal supervision)
Mixed/Augmented Reality and Virtual Environments Lab
Carleton University

2023   Danielle Cole, BIT Student
Mixed/Augmented Reality and Virtual Environments Lab
Carleton University

2023   Elis Joynes, BIT Student
Mixed/Augmented Reality and Virtual Environments Lab
Carleton University

2022   Arman Hafizi, MMath Student (Informal supervision, industry partner)
Huawei-Waterloo Joint Innovation Lab
University of Waterloo

2022   Jeffrey Lee, BEng Co-op Student (Mechatronics)
Human-Machine Interaction Lab
Huawei Technologies Canada

2022   Rachel Du, BEng Co-op Student (Mechatronics)
Human-Machine Interaction Lab
Huawei Technologies Canada