

# Jay Henderson Curriculum Vitae

Pronouns: he/him

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## 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*
- 2022 - 2023      Postdoctoral Fellow & Instructor  
*Carleton University*
- 2021 - 2022      Senior Research Scientist  
*Huawei Technologies Canada*

2019 - 2020	Research Scientist Internship <i>Meta Reality Labs (formerly Chatham Labs)</i>
2018 - 2019	Research Scientist Internship <i>Huawei Technologies Canada</i>
2017	Visiting Researcher <i>Inria, Lille</i>
2016	Software Engineer <i>Mysa Smart Thermostats</i>

## 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.

2024	Eric DeMarbre, <b>Jay Henderson</b> , Robert J Teather. 2024. <i>Investigating Presence Across Rendering Style and Ratio of Virtual to Real Content in Mixed Reality</i> . In Proceedings of the 2024 ACM Symposium on Spatial User Interaction (SUI '24). DOI: <a href="https://doi.org/10.1145/3677386.3682098">10.1145/3677386.3682098</a> . ( <b>Acceptance rate: 31%</b> )
2023	<b>Jay Henderson</b> , Ali Neshati, Wei Zhou, Daniel Vogel, Edward Lank. 2023. <i>Interaction Region Characteristics for Midair Barehand Targeting on a Television</i> . Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23). DOI: <a href="https://doi.org/10.1145/3544549.3585877">10.1145/3544549.3585877</a> . ( <b>Acceptance rate: 34%</b> )
2023	Arman Hafizi, <b>Jay Henderson</b> , Ali Neshati, Wei Zhou, Edward Lank, Daniel Vogel. 2023. <i>In-vehicle Performance and Distraction for Midair and Touch Directional Gestures</i> . In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). DOI: <a href="https://doi.org/10.1145/3544548.3581335">10.1145/3544548.3581335</a> . ( <b>Acceptance rate: 28.4%</b> )
2022	<b>Jay Henderson</b> , Tanya Jonker, Edward Lank, Daniel Wigdor, Ben Lafreniere. 2022. <i>Investigating Cross-Modal Approaches for Evaluating Error Acceptability of a Recognition-Based Input Technique</i> . In Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. 6, 1 (March 2022), 22 pages. DOI: <a href="https://doi.org/10.1145/3517262">10.1145/3517262</a> . ( <b>Average acceptance rate: 22.5%</b> )
2020	<b>Jay Henderson</b> , Jessy Ceha, and Edward Lank. 2020. <i>STAT: Subtle Typing Around the Thigh for Head-Mounted Displays</i> . 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1145/3290605.3300715). (**Acceptance rate: 23.8%**)
- 2019 **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](https://doi.org/10.1145/3078810.3078818). (**Acceptance rate: 55%**)

## 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

- 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)
- 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

- 2024 - 2025 COMP 4303 – AI for Games  
Instructor  
*Memorial University*
- 2024 COMP 1001 – Introduction to Programming  
Instructor  
*Memorial University*

- 2023 ITEC 4011 – AI 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**

- 2024 - 2026 Daniel Jo, MSc 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) <i>Human-Computer Interaction Lab</i> <i>Memorial University</i>
2024	Tushar Billakanti, BSc Honours Student (CS) <i>Human-Computer Interaction Lab</i> <i>Memorial University</i>
2023	Eric DeMarbre, MSc Student (Informal supervision) <i>Mixed/Augmented Reality and Virtual Environments Lab</i> <i>Carleton University</i>
2023	Danielle Cole, BIT Student <i>Mixed/Augmented Reality and Virtual Environments Lab</i> <i>Carleton University</i>
2023	Elis Joynes, BIT Student <i>Mixed/Augmented Reality and Virtual Environments Lab</i> <i>Carleton University</i>
2022	Arman Hafizi, MMath Student (Informal supervision) <i>Huawei-Waterloo Joint Innovation Lab</i> <i>University of Waterloo</i>
2022	Jeffrey Lee, BEng Co-op Student (Mechatronics) <i>Human-Machine Interaction Lab</i> <i>Huawei Technologies Canada</i>
2022	Rachel Du, BEng Co-op Student (Mechatronics) <i>Human-Machine Interaction Lab</i> <i>Huawei Technologies Canada</i>