

# JAY HENDERSON

JAY [DOT] HENDERSON [AT] UWATERLOO.CA | JAYHENDERSON.CA | NATIONALITY: CANADIAN

## EDUCATION

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### PhD in Computer Science (Human-Computer Interaction)

*University of Waterloo*

- Supervised by Professor Edward Lank.

Sept 2016 – Sept 2021

*Waterloo, ON, Canada*

### BSc Hons. in Computer Science, Minors in Mathematics and Psychology

*Mount Allison University*

Sept 2012 – May 2016

*Sackville, NB, Canada*

## EXPERIENCE

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### Senior Research Scientist

*Human Machine Interaction Lab – Huawei Technologies Canada*

Sept 2021 – Present

*Markham, ON, Canada*

### Research Intern

*Human Machine Interaction Lab – Huawei Technologies Canada*

- Led a research project on bare-hand input for distant displays.
- Supervised by Dr. Sachi Mizobuchi.
- Project is currently under review.

Jan 2021 – April 2021

*Markham, ON, Canada*

### Research Intern

*Chatham Labs (Now Facebook Reality Labs)*

- Led a research project on evaluating interaction techniques in virtual reality.
- Supervised by Dr. Ben Lafreniere.
- Project is currently under review.

Dec 2019 – May 2020

*Toronto, ON, Canada*

### Research Intern

*Noah's Ark Lab – Huawei Technologies Canada*

- Led a research project on mid-air gesture guidance through touch interaction.
- Supervised by Dr. Sachi Mizobuchi and Dr. Wei Li.
- This internship resulted in publication at MobileHCI 2019 [P3].

Sept 2018 – Jan 2019

*Markham, ON, Canada*

### Research Intern

*Inria / University of Lille*

- Led a research project on vibrotactile feedback provided by a smartwatch.
- Supervised by Professor Edward Lank and Professor Laurent Grisoni.
- This internship resulted in publication at CHI 2019 [P4].

May 2017 – Aug 2017

*Lille, France*

### Software Engineer

*MYSA Smart Thermostats*

- Primary responsibilities included development and design of the web user interface for a smart home thermostat. Other responsibilities included embedded system development and database implementation.

May 2016 – Sept 2016

*St. John's, NL, Canada*

### Undergraduate Research Assitant

*Mount Allison University*

- Conducted an honours research project on evaluating the user experience of course registration systems.
- Supervised by Professor Andrew Hamilton-Wright.

May 2015 – May 2016

*Sackville, NB, Canada*

### Teaching Assistant/Instructional Apprentice

*Mount Allison University / University of Waterloo*

- Responsibilities include conducting tutorials, instructing labs, marking, preparing course materials and holding office hours to consult with students.

Jan 2015 – Dec 2020

*Sackville, NB, Canada / Waterloo, ON, Canada*

## AWARDS

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### David R. Cheriton Graduate Scholarship

2017 – 2019

University of Waterloo

Waterloo, ON, Canada

- Awarded by the director of the Cheriton School of Computer Science and an appointed committee based on academic excellence. Valued at \$10,000 annually.

### Math Domestic Graduate Student Award

2016 – 2021

University of Waterloo

Waterloo, ON, Canada

- Awarded to incoming Canadian graduate students. Valued at \$6,000 annually.

## PEER REVIEWED PUBLICATIONS

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\*\*\* Note on conference papers: in *Human-Computer Interaction*, these are the preferred publication venues, being timelier and having the greatest impact. Top tier conferences require rigorous multi-stage review of manuscripts for archival proceedings.

- [P1] **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%)**
- [P2] **Jay Henderson**, Sylvain Malacria, Mathieu Nancel, and Edward Lank. 2020. *Investigating The Necessity Of Delay In Marking Menu Invocation*. In Proceedings of 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%)**
- [P3] **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%)**
- [P4] **Jay Henderson**, Jeff Avery, Laurent Grisoni, and Edward Lank. 2019. *Leveraging Distal Vibrotactile Feedback for Target Acquisition*. In Proceedings of 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%)**
- [P5] **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%)**

## NON-PEER REVIEWED PUBLICATIONS

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- [N1] **Jay Henderson**. 2021. Understanding Mode and Modality Transfer in Unistroke Gesture Input. (PhD Dissertation).
- [N2] Mohamed Khamis, **J. Henderson**, and Guiying Du. 2017. Title: PerDis 2017. IEEE Pervasive Computing 16, no. 4: 86–89. DOI: 10.1109/MPRV.2017.3971126
- [N3] **J. Henderson**. 2016. Evaluations of the Connect Course Registration System Across Mobile and Desktop Interfaces. (Bachelor's Honours Thesis).

## TECHNICAL SKILLS

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**Languages:** Java, Python, C#, JavaScript, HTML/CSS, R

**Developer Tools:** Git, Unity, Android Studio, IntelliJ, Eclipse, Jupyter Notebook

**Libraries:** pandas, NumPy, Matplotlib, OpenCV, LeapMotion

**Other:** Experimental Design, User Studies, SPSS, UI/UX, MS Office, Videography and Graphic Design

## TEACHING EXPERIENCE

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<b>CS 349 – Introduction to User Interfaces – TA/Instructional Apprentice</b> <i>University of Waterloo</i>	2018, 2019, 2020 <i>Waterloo, ON, Canada</i>
<b>CS 105 – Introduction to Computer Programming 1 – TA/Instructional Apprentice</b> <i>University of Waterloo</i>	2017, 2019 <i>Waterloo, ON, Canada</i>
<b>CS 449/649 – Human-Computer Interaction – TA</b> <i>University of Waterloo</i>	2019 <i>Waterloo, ON, Canada</i>
<b>CS 106 – Introduction to Computer Programming 2 – TA/Instructional Apprentice</b> <i>University of Waterloo</i>	2017, 2018 <i>Waterloo, ON, Canada</i>
<b>CS 135 – Designing Functional Programs – TA</b> <i>University of Waterloo</i>	2016 <i>Waterloo, ON, Canada</i>
<b>COMP 1731 – Programming Techniques and Algorithms – TA</b> <i>Mount Allison University</i>	2016 <i>Sackville, NB, Canada</i>
<b>COMP 2931 – Introduction to Systems Programming – TA</b> <i>Mount Allison University</i>	2015 <i>Sackville, NB, Canada</i>

## SERVICE

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<b>Associate Chair (AC)</b> <i>MobileHCI Late Breaking Work</i>	2021
<b>Peer Reviewer</b> <i>ACM SIGCHI Conferences (CHI, MobileHCI, and Automotive UI), IJHCI, KSII TIIIS</i>	2017 – Present
<b>ACM Name Change Committee</b> <i>Association for Computing Machinery</i> <ul style="list-style-type: none"><li>Served on a committee that developed an overarching name change policy within all ACM publications. Chosen, alongside several other researchers who publish within the ACM, that are transgender and/or gender non-conforming (GNC), whom the policy would particularly impact.</li></ul>	2019
<b>CHI Conference Allyship Program</b> <i>ACM SIGCHI</i> <ul style="list-style-type: none"><li>Served as a point of contact for attendees about equity. Selected experience in equity-related activities.</li></ul>	May 2019 <i>Glasgow, Scotland</i>
<b>CHI Conference Student Volunteer</b> <i>ACM SIGCHI</i>	May 2017 <i>Denver, CO, USA</i>
<b>S.M.I.L.E. Buddy</b> <i>Mount Allison University / Cumberland YMCA</i> <ul style="list-style-type: none"><li>A recreational program offered every Saturday morning, where I was paired with a child who may otherwise not be able to participate in typical programs of the like due to their unique developmental needs.</li></ul>	Sept 2014 - May 2016 <i>Amherst, NS, Canada</i>