

Martez E. Mott

Curriculum Vitae

Senior Researcher
Ability Group, Microsoft Research
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EDUCATION

- 2018 **University of Washington**, Seattle, WA, USA
Ph.D. in Information Science
Dissertation: *Improving Touch Accuracy for People with Motor Impairments*
Advisor: Jacob O. Wobbrock
- 2015 **University of Washington**, Seattle, WA, USA
M.S. in Information Science
Advisor: Jacob O. Wobbrock
- 2012 **Bowling Green State University**, Bowling Green, OH, USA
M.S. in Computer Science
Advisor: G. Michael Poor
- 2010 **Bowling Green State University**, Bowling Green, OH, USA
B.S. in Computer Science

PROFESSIONAL EXPERIENCE

- 2020 - present **Senior Researcher**, Ability Group, Microsoft Research, Redmond, WA, USA
- 2019 - 2020 **Postdoctoral Researcher**, Ability Group, Microsoft Research, Redmond, WA, USA
Investigating how to improve the accessibility of virtual and augmented reality systems for people with limited mobility.
- Summer 2017 **Research Intern**, Microsoft Research, Redmond, WA, USA
Mentors: Ed Cutrell and Meredith Ringel Morris
Investigated the accessibility of smartphone photography for people with motor impairments.
- Fall 2015 **Research Intern**, Microsoft Research, Redmond, WA, USA
Mentor: Meredith Ringel Morris
Developed a new technique to improve gaze-typing for people with severe motor disabilities.

ACADEMIC RESEARCH EXPERIENCE

- 2012 - 2018 **Graduate Research Assistant**, University of Washington
Advisor: Jacob O. Wobbrock
Created algorithms and techniques to improve the accessibility of touch-enabled devices for people with motor impairments.
- 2011 - 2012 **Graduate Research Assistant**, Bowling Green State University
Advisors: Laura Leventhal and Dale Klopfer
Developed tools to improve the visual penetration skills of students in the geological sciences.
- 2010 **SetGo Summer Research Scholar**, Bowling Green State University
Advisor: G. Michael Poor
Developed and evaluated a World of Warcraft user interface for people with visual impairments.
- 2009 **SetGo Summer Research Scholar**, Bowling Green State University
Advisor: Hassan Rajaei
Evaluated state of the art hand detection and tracking technologies for virtual environments.

AWARDS

- 2017 **Microsoft Research Dissertation Grant**, Microsoft Research
- 2017 **GO-MAP Dissertation Fellowship**, University of Washington
- 2016 **Best Paper Award**, ACM Conference on Human Factors in Computing Systems (CHI '16)
- 2013 **Honorable Mention**, Ford Foundation Predoctoral Fellowship
- 2012 **Graduate Opportunity Award**, University of Washington
- 2012 **Outstanding Computer Science Graduate Student Award**, Bowling Green State University

PUBLICATIONS

Refereed Conference Papers (Full)

- [C.11] Mott, M.E., Tang, J., Kane, S.K., Cutrell, E., and Morris, M.R. (2020). **“I just went into it assuming that I wouldn’t have the full experience”**: Understanding the accessibility of virtual reality for people with limited mobility. Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '20). New York: ACM Press. Article No. 43. ^[28%]
- [C.10] Mott, M.E. and Wobbrock, J.O. (2019). **Cluster Touch: Improving smartphone touch accuracy for people with motor and situational impairments**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '19). Glasgow, Scotland (May 4-9, 2019). New York: ACM Press. Paper No. 27. ^[24%]
- [C.9] Fok, R., Kaur, H., Palani, S., Mott, M.E., and Lasecki, W.S. (2018). **Towards more robust speech interactions for deaf and hard of hearing users**. Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '18). Galway, Ireland (October 22-24, 2018). New York: ACM Press, pp. 57-67. ^[26%]
- [C.8] Mott, M.E., E., J., Bennett, C., Cutrell, E., and Morris, M.R. (2018). **Understanding the accessibility of smartphone photography for people with motor impairments**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '18). Montreal, Quebec (April 21-26, 2018). New York: ACM Press. Paper No. 520. ^[25%]
- [C.7] Bennett, C., E., J., Mott, M.E., Cutrell, E., and Morris, M.R. (2018). **How teens with visual impairments take, edit, and share photos on social media**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '18). Montreal, Quebec (April 21-26, 2018). New York: ACM Press. Paper No. 76. ^[25%]
- [C.6] Mott, M.E., Williams, S., Wobbrock, J.O., and Morris, M.R. (2017). **Improving dwell-based gaze typing with dynamic, cascading dwell times**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '17). Denver, Colorado (May 6-11, 2017). New York: ACM Press, pp. 2558 – 2570. ^[25%]
- [C.5] Mott, M.E., Vatavu, R-D., Kane, S.K., and Wobbrock, J.O. (2016). **Smart Touch: Improving touch accuracy for people with motor impairments with template matching**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '16). San Jose, California (May 7-12, 2016). New York: ACM Press, pp.1934-1946. **Best Paper Winner**. ^[23%]
- [C.4] Mott, M.E. and Wobbrock, J.O. (2014). **Beating the bubble: Using kinematic triggering in the BubbleLens for acquiring small dense targets**. Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '14). Toronto, Ontario (April 26-May 1, 2014). New York: ACM Press, pp. 733-742. ^[23%]
- [C.3] Donahue, T., Poor, G.M., Mott, M.E., Leventhal, L., Zimmerman, G., and Klopfer, D. (2013). **On interface closeness and problem solving**. Proceedings of the ACM Conference on Tangible, Embedded, and Embodied Interaction (TEI '13). Barcelona, Spain (February 10-13, 2013). New York: ACM Press, pp. 139-146. ^[35%]

- [C.2] Poor, G.M., Donahue, T.J., Mott, M.E., Zimmerman, G.W., and Leventhal, L.M. (2011). **Access-a-Wow: Building an enhanced World of Warcraft UI for persons with low visual acuity.** Proceedings of the International Conference on Universal Access in Human-Computer Interaction. Held as part of HCI International 2011 (HCII '11). Berlin: Springer-Verlag, pp. 352-361.
- [C.1] Mott, M. and Rajaei, H. (2010). **Hand detection and tracking for virtual training environments.** Proceedings of the Spring Simulation Multiconference (SpringSim '10). New York: ACM Press. Article Number 115.

Posters and Extended Abstracts

- [P.1] Mott, M.E., Donahue, T.J., Poor, G.M., and Leventhal, L.M. (2012). **Leveraging motor learning for a tangible password system.** Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI '12). Austin, Texas (May 5-10, 2012). New York: ACM Press, pp. 733-742. ^[48%]

Workshops and Doctorial Consortia

- [W.2] Mott, M.E., Cutrell, E., Franco, M.G., Holz, C., Ofek, E., Stoakley, R., Morris, M.R. (2019). **Accessible by design: An opportunity for virtual reality.** IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct '19). Beijing, China, pp. 451-454.
- [W.1] Mott, M.E. (2017). **Accessible touch input for people with motor impairments.** Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI '17). Denver, Colorado (May 6-11, 2017). New York: ACM Press, pp. 307-311. **[CHI 2017 DOCTORAL CONSORTIUM PARTICIPANT]**

TEACHING EXPERIENCE

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|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fall 2018 | Teaching Assistant – INFO 300 (Research Methods in Informatics), University of Washington
Instructor: Dr. Emma Spiro
Led weekly recitation class and mentored students on their course projects. |
| Spring 2017 | Instructor – INFO 463 (Input and Interaction), University of Washington
Lectured, developed the course project, and mentored student groups. |
| Winter 2017 | Teaching Assistant – INFO 360 (Design Thinking), University of Washington
Instructor: Dr. Jason Yip
Led weekly lab sessions and mentored students on design projects. |
| Fall 2016 | Teaching Assistant – INFO 470 (Research Methods in Informatics), University of Washington
Instructor: Dr. Jacob Wobbrock
Led weekly recitation class and mentored students on their course projects. |
| Spring 2016 | Teaching Assistant – INFO 463 (Input and Interaction), University of Washington
Instructor: Dr. Jacob Wobbrock
Developed the course project, lectured, and graded assignments. |
| Summer 2014 | Teaching Fellow , iSchool Inclusion Institute (i3), University of Pittsburgh
Created and co-taught a two week introduction to programming course for undergraduates in the i3 summer program. |
| Winter 2013 | Teaching Assistant – INFO 444 (Value Sensitive Design), University of Washington
Instructor: Dr. David Hendry
Mentored student groups and co-led weekly project meetings. |
| Spring 2012 | Teaching Assistant – CS 2020 (Object-oriented Programming), Bowling Green State University
Instructor: Dr. Laura M. Leventhal
Held review sessions and assisted students with programming and lab assignments. |
| Summer 2011 | Teaching Assistant – CS 2010 (Programming Fundamentals), Bowling Green State University
Instructor: Dr. G. Michael Poor
Graded assignments and tutored students one-on-one. |

INVITED TALKS

- Nov. 2020 “Accessible virtual reality for people with limited mobility” – **Computer Science and Engineering Seminar, University of Notre Dame, Notre Dame, IN, USA.**
- Feb. 2020 “Accessible virtual reality for people with limited mobility” – **Computer graphics research seminar, Brown University, Providence, RI, USA.**
- June 2019 “Considering ability in the design of interactive systems” – **iSchool Inclusion Institute (i3), University of Pittsburgh, Pittsburgh, PA, USA.**
- July 2018 “The Hitchhiker’s guide to the PhD” – **iSchool Inclusion Institute (i3), University of Pittsburgh, Pittsburgh, PA, USA.**
- May 2016 “Improving touch interactions for people with motor impairments through ability-based design” – **Michigan Interactive and Social Computing (MISC) seminar, University of Michigan, Ann Arbor, MI, USA.**
- June 2015 “My journey to an HCI PhD and how I balance the chip on my shoulder” – **iSchool Inclusion Institute (i3), University of Pittsburgh, Pittsburgh, PA, USA.**

SERVICE AND VOLUNTEERING

Organizing Committees

- 2021 Experience Reports Co-Chair, ACM Computers and Accessibility (ASSETS)
- 2019 Posters Co-Chair, ACM Computers and Accessibility (ASSETS)

Program Committees

- 2019, 2020 ACM Computers and Accessibility (ASSETS)
- 2019 – 2021 ACM Human Factors in Computing Systems (CHI)

Conference Reviewer

- 2014 – 2018 ACM Human Factors in Computing Systems (CHI)
- 2015 – 2020 ACM User Interface Software and Technology (UIST)
- 2017, 2019 ACM Human-Computer Interaction with Mobile Devices and Services (MobileHCI)
- 2019, 2020 ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
- 2020 ACM Conference on Computer-Supported Cooperative Work (CSCW)
- 2020 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)

Journal Reviewer

- 2019 – 2021 ACM Transactions on Accessible Computing (TACCESS)
- 2017, 2018 ACM Transactions on Computer-Human Interaction (TOCHI)
- 2018, 2019 International Journal of Human-Computer Studies (IJHCS)
- 2018 Journal on Multimodal User Interfaces (JMUI)

Other Service

- 2021 **CHIMe 2021 Steering Committee**
- 2020 **CHIMe 2020 Co-Chair**
- 2020 **Black Researchers @ MSR Co-Founder**

2014 - 2015 **Coordinator**, University of Washington iSchool Doctoral Student Association
2014 - 2015 **Student Committee Member**, dub Speaker Series, University of Washington
2013 - 2014 **Social Committee Coordinator**, University of Washington iSchool Doctoral Student Association
2013 **Student Volunteer**, dub Retreat, University of Washington
2011 **Student Volunteer**, Human-Computer Interaction International 2011
2011 **Graduate Student Orientation Development Leader**, Bowling Green State University

RESEARCH INTERNS AND MENTEES

2020 **Momona Yamagami** (University of Washington, *intern*)
2020 **Zhu Wang** (New York University, *intern*)
2019 **Candace Williams** (Howard University, *intern*)
2019 **Rachel Franz** (University of Washington, *intern*)
2019 **Gabriella Ayala, Ruiting Feng, Ariana Gamarra, Samay Nathani** (13 Research Scholars)