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 Investigated 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.12] Franz, R.L., Junuzovic, S., Mott, M.E. (2021). **Nearmi: A framework for designing point of interest techniques for VR users with limited mobility.** Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '21). New York: ACM Press. Article No. 5. [29%]

[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.

Journal Articles

[J.1] Yamagami, M., Junuzovic, S., Gonzalez-Franco, M., Ofek, E., Cutrell, E., Porter, J., Wilson, A., and Mott, M.E. (2022). **Two-in-One: A design space for mapping unimanual input into bimanual interactions in VR for users with limited movement**. ACM Transactions on Accessible Computing (TACCESS). To appear.

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., Gonzalez-Franco, M., 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

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

Jan 2022	"Designing Accessible Virtual Reality Experiences for People with Limited Mobility" – **Edison Lecture Series, College of Engineering, University of Notre Dame, South Bend, IN, USA.**
Dec 2021	"Designing Accessible Virtual Reality Experiences for People with Limited Mobility" – **Design, Use, Build (DUB) Seminar, University of Washington, Seattle, WA, USA.**
May 2021	"Accessible virtual reality for people with limited mobility" – **Computer Science Colloquium, Northwestern University, Evanston, IL, USA.**
Apr. 2021	"Accessible virtual reality for people with limited mobility" – **Human-Computer Interaction Lab BBL Speaker Series, University of Maryland, College Park, MD, USA.**
Mar. 2021	"Accessible virtual reality for people with limited mobility" – **Bristol Interaction Group, University of Bristol, Bristol, England.**
Feb. 2021	"Accessible virtual reality for people with limited mobility" – **Human-Computer Interaction Seminar, Stanford University, Stanford, CA, USA.**
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

2022	Treasury and Registration Co-Chair, ACM Computers and Accessibility (ASSETS)
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, 2021 ACM Human Factors in Computing Systems (CHI)

2015 – 2021 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, 2021 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

2021 **Johann Wentzel** (University of Waterloo, *intern*)

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** (i3 Research Scholars)