

Emma J. McDonnell

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Department of Human Centered Design and Engineering, University of Washington, Seattle, 98122
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Education

UNIVERSITY OF WASHINGTON

Ph.D. in Human Centered Design and Engineering

Advised by Dr. Leah Findlater

SEATTLE, WA

2019 – Present

GPA: 4.00

NORTHWESTERN UNIVERSITY

Bachelor of Science in Computer Science

Minor in Gender and Sexuality Studies

EVANSTON, IL

2015 – 2019

GPA: 3.59

Research Interests

Human-Computer Interactions, Accessibility, Assistive Technology, Critical Design, Disability Studies

Research Experience

UNIVERSITY OF WASHINGTON

Research Assistant

2019 – Present

- Pls: Dr. Leah Findlater, Dr. Jon Froehlich
- Investigating how to design captioning systems to support hearing and d/Deaf and hard of hearing people in creating more accessible group conversation practices

NORTHWESTERN UNIVERSITY

Research Assistant

2017 – 2019

- Advised by Dr. Anne Marie Piper and Dr. Bryan Pardo
- Developed a real-time conversation monitoring system for small-group conversations designed to indicate to hearing individuals when their conversation behaviors become inaccessible to hard of hearing people
- Created a small dataset of audio segments from podcasts, and used it to train a classifier to recognize audio as speech, non-speech noise, or silence to allow blind audio engineers to navigate an audio file faster

Publications

JOURNAL PAPERS

- [1] **Honorable Mention and Diversity and Inclusion Recognition: Emma J. McDonnell**, Ping Liu, Steven M. Goodman, Raja Kushalnagar, Jon E. Froehlich, and Leah Findlater. 2021. Social, Environmental, and Technical: Factors at Play in the Current Use and Future Design of Small-Group Captioning. In *PACM on Human Computer Interaction*, Vol. 5, CSCW2, Article 434, October 2021. ACM, New York, NY, USA. 25 pages. <https://doi.org/10.1145/3479578>
- [2] Steven M. Goodman, Ping Liu, Dhruv Jain, **Emma J. McDonnell**, Jon E. Froehlich, and Leah Findlater. 2021. Toward User-Driven Sound Recognizer Personalization With People Who Are d/Deaf or Hard of Hearing. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 5, 2, Article 63 (June 2021), 23 pages. <https://doi.org/10.1145/3463501>

CONFERENCE PAPERS

- [1] **Honorable Mention:** Kelly Mack, **Emma J. McDonnell**, Dhruv Jain, Lucy Lu Wang, Jon E. Froehlich, and Leah Findlater. 2021. What Do We Mean by "Accessibility Research"? A Literature Survey of Accessibility Papers in CHI

and ASSETS from 1994 to 2019. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery, New York, NY, USA. DOI: <https://dl.acm.org/doi/10.1145/3411764.3445412>

- [2] Kelly Mack, **Emma J. McDonnell**, Venkatesh Potluri, Maggie Xu, Jailyn Zabala, Jeffrey P. Bigham, Jennifer Mankoff, and Cynthia L. Bennett. 2022. Anticipate and Adjust: Cultivating Access in Human-Centered Methods. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*. ACM, New York, NY, USA, to appear.
- [3] *Under Review*: Jazz Rui Xia Ang, Ping Liu, **Emma J. McDonnell**, and Sarah Coppola. 2022. "Can you see me? Are you talking to me?": Exploring Inclusive Video Conference Design for Signers. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA.

EXTENDED ABSTRACTS

- [1] Lucy Lu Wang, Kelly Mack, **Emma J. McDonnell**, Dhruv Jain, Leah Findlater, and Jon E. Froehlich. 2021. A bibliometric analysis of citation diversity in accessibility and HCI research. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI '21 Extended Abstracts)*, May 8–13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 11 pages. <https://doi.org/10.1145/3411763.3451618>

WORKSHOP PAPERS

- [1] **Emma McDonnell**, Leah Findlater, Audrey Desjardins. 2020. [Bridging Accessibility and Disability Studies Research to Speculate Beyond Ability Norms](#). For the workshop "Nothing About Us Without Us: Investigating the Role of Critical Disability Studies in HCI," *CHI 2020*, Honolulu, HI.

Honors/Awards

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOW 2021-2026

- Five-year fellowship awarded to top graduate student applicants in NSF-supported STEM fields
- Three years of financial support in the form of a stipend and tuition waiver, totaling \$138,000

GEORGE C. CASEY PRIZE May 2019

- Awarded to the best essay written by an undergraduate Gender Studies student at Northwestern each year

MURPHY SCHOLAR 2015-2019

- One of 17 (of 377) first years in Northwestern's McCormick School of Engineering and Applied Sciences selected to receive a stipend for independent research and research mentoring

Teaching Experience

DIRECTED RESEARCH GROUP: CURRENT TRENDS IN ACCESSIBILITY RESEARCH Fall 2020, Fall 2021

Facilitator

- University of Washington Department of Human Centered Design and Engineering

INTRODUCTION TO DISABILITY STUDIES Spring 2021

Teaching Assistant

- Dr. Joanne Woiak – University of Washington Disability Studies Program
- Ran two discussion sections, teaching 50 students weekly

USABILITY STUDIES Winter 2021

Teaching Assistant

- Dr. Sarah Coppola – University of Washington Department of Human Centered Design and Engineering

FUNDAMENTALS OF COMPUTER PROGRAMMING Winter 2018, Fall 2018, Winter 2019

Head Teaching Assistant

- Dr. Sara Sood and Dr. Ian Horswill - Northwestern University Department of Computer Science

- Worked with Dr. Sara Sood to design and teach discussion sessions for students with no prior coding experience

FUNDAMENTALS OF COMPUTER PROGRAMMING 1.5

Spring 2018

Teaching Assistant

- Dr. Sara Sood - Northwestern University Department of Computer Science

INTRODUCTION TO DATA STRUCTURES AND ALGORITHMS

Fall 2017

Teaching Assistant

- Dr. Jesse Tov - Northwestern University Department of Computer Science

Invited Talks/Panels

SOCIETY FOR DISABILITY STUDIES

April 2021

Panelist

- Devva Kasnitz, Jen Mankoff, Meryl Alper, **Emma McDonnell**, Kelly Mack, and Venkatesh Potluri. April 18, 2021. Human Computer Interaction Folk Have Found Disability Studies: Playing Together Well! *Society for Disability Studies @ Ohio State University Conference 2021*

HCI 05499 - SPECIAL TOPICS IN HCI: ACCESSIBILITY, CARNEGIE MELLON UNIVERSITY

March 2021

Guest Speaker for Dr. Patrick Carrington

- Social, Environmental, and Technical: Factors at Play in the Current Use and Future Design of Small-Group Captioning

HCDE 515 ACCESSIBILITY AND INCLUSIVE DESIGN, UNIVERSITY OF WASHINGTON

July 2021

Guest Speaker for Dr. Sarah Coppola

- Social, Environmental, and Technical: Factors at Play in the Current Use and Future Design of Small-Group Captioning

Work Experience

IBM, Austin, Texas

June 2018 – September 2018

Research Intern, Division of Accessibility Research

- Implemented an indoor navigation system called NavCog which provides blind users turn-by-turn directions to make multiple spaces on the IBM Austin campus more accessible to blind visitors and employees
- Accessibility Subject Matter Expert and team lead for a group of designers exploring accessible airport navigation
- Created a tool to automatically generate accessible color palettes to enable web designers to meet web accessibility standards for color contrast

UNIVERSITY OF MINNESOTA, Soudan, Minnesota

June 2016 – September 2016

Decommissioning Intern, Soudan Underground Laboratory

- Deconstructed MINOS Neutrino detector, a joint venture between the University of Minnesota and Fermi National Accelerator Laboratory

Mentoring/Advising

UNIVERSITY OF WASHINGTON

- Ana Liu, M.S. Human Centered Design and Engineering, 2019-Present
- Andy Moon, M.S. Human Centered Design and Engineering, 2020-Present
- Jazz Ang, M.S. Human Centered Design and Engineering 2021-Present
- Lucy Jiang, B.S. Computer Science and Engineering, 2021-Present

Volunteer/Service

ASSETS 2022 Virtual Co-Char November 2021-Present

- Member of the ASSETS 2022 Organizing Committee, responsible for planning and executing the virtual aspect of this year's hybrid conference

PhD STUDENT AMBASSADOR October 2021-Present

- Serving as a contact for prospective HCDE PhD students, meeting 1:1 and facilitating information sessions

GIRLS WHO CODE FACILITATOR September 2021-Present

- Supporting high school girls in learning Python and gaining familiarity with computer science

PROSPECTIVE PhD VISIT COORDINATOR March 2020

- Planned and ran activities to introduce prospective PhD students visiting HCDE to the department and to Seattle

TOURNAMENT DIRECTOR January 2018 – May 2019

- Ran Northwestern's Tournament of Champions in Extemporaneous Speaking, a national speech tournament for 60-70 of the nation's best high school extemporaneous speakers
- Coordinated an annual conference and two-day tournament, leading a team of 15 peers to manage catering, registration, tournament administration, judging, scheduling, and awards

BEST BUDDIES NORTHWESTERN September 2015 – March 2019

- Three-year member of the executive board, serving as Vice President and Membership and Activities Coordinator for Northwestern's Best Buddies chapter which connects college students with local disabled high schoolers

Reviewing

- CHI 2022
- ISWC 2021

Skills

- Programming experience in C, C#, C++, Python, JavaScript, HTML, CSS, R, and Racket
- Working proficiency in Spanish, beginner proficiency in American Sign Language
- Accomplished public speaker, making national semifinals in extemporaneous, impromptu, and persuasive speaking at the collegiate level