

# Emma J. McDonnell

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

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UNIVERSITY OF WASHINGTON

SEATTLE, WA

**Ph.D. Candidate in Human Centered Design and Engineering**

2019 – 2024 (expected)

Advised by Dr. Leah Findlater

GPA: 4.00

Committee Members: Dr. Daniela Rosner, Dr. Jon Froehlich, Dr. Mark Harniss

**Graduate Certificate in Disability Studies**

2020-2024 (expected)

**Master of Science in Human Centered Design and Engineering**

2019-2023

NORTHWESTERN UNIVERSITY

EVANSTON, IL

**Bachelor of Science in Computer Science**

2015 – 2019

Minor in Gender and Sexuality Studies

GPA: 3.59

## Research Interests

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Human-Computer Interactions, Accessibility, Communication Technology, Design, Disability Studies

## Research Experience

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UNIVERSITY OF WASHINGTON

2019 – Present

*Research Assistant*

- 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

2017 – 2019

*Research Assistant*

- 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

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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] *In Submission*. **Emma J. McDonnell**, Tessa Eagle, Pitch Sinlapanuntakul, Soo Hyun Moon, Jon E. Froehlich, Kate Ringland, Leah Findlater. 2024. "Caption it in an Accessible Way That Is Also Enjoyable": Characterizing User-Driven Captioning Practices on TikTok. Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY, USA.
- [2] **Emma J. McDonnell**, Soo Hyun Moon, Lucy Jiang, Steven M. Goodman, Raja Kushalnagar, Jon E. Froehlich, and Leah Findlater. 2023. "Easier or Harder, Depending on Who the Hearing Person Is": Codesigning Videoconferencing Tools for Small Groups with Mixed Hearing Status. Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY, USA. ACM <https://doi.org/10.1145/3544548.3580809>
- [3] **Best Paper Nominee: Emma J. McDonnell\***, Kelly Avery Mack\*, Leah Findlater, and Heather D. Evans. 2022. Chronically Under-Addressed: Considerations for HCI Accessibility Practice with Chronically Ill People. In Proceedings of the 24<sup>th</sup> International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22). ACM, New York, NY, USA. <https://doi.org/10.1145/3517428.3544803>
- [4] **Honorable Mention:** Kelly Avery 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. <https://doi.org/10.1145/3491102.3501882>
- [5] Jazz Rui Xia Ang\*, Ping Liu\*, **Emma J. McDonnell**, and Sarah Coppola. 2022. "In this Online Environment, We're Limited": Exploring Inclusive Video Conferencing Design for Signers. Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems. ACM, New York, NY, USA. <https://doi.org/10.1145/3491102.3517488>
- [6] **Honorable Mention:** Kelly Avery 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>

## EXTENDED ABSTRACTS, POSTERS, AND OTHER REVIEWED PUBLICATIONS

- [1] **Emma J. McDonnell\***, Kelly Avery Mack\*, Kathrin Gerling, Katta Spiel, Cynthia L. Bennett, Robin N. Brewer, Rua Mae Williams, Garreth W. Tigwell. 2023. Tackling the Lack of a Practical Guide in Disability-Centered Research. Accepted Workshop Proposal. In Proceedings of the 25<sup>th</sup> ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). ACM, New York, NY, USA.
- [2] Kelly Avery Mack, Natasha Sidik, Aashaka Desai, **Emma J. McDonnell**, Kunal Mehta, Christina Zhang, Jennifer Mankoff. 2023. Maintaining the Accessibility Ecosystem: A Multi-Stakeholder Analysis of Accessibility in Higher Education. Experience Report. In Proceedings of the 25<sup>th</sup> ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). ACM, New York, NY, USA.
- [3] *In Submission*. Momona Yamagami, Kelly Avery Mack, **Emma J. McDonnell**, Jerry Cao, Katherine M. Steele, Heather D. Evans, Leah Findlater, Jennifer Mankoff, on behalf of CREATE. 2022. Centering Accessibility for Person-Centered Care Planning for MCC. Response to Request for Information on Person-Centered Care Planning for Multiple Chronic Conditions (MCC). Federal Register.
- [4] **Emma J. McDonnell**. 2022. Understanding Social and Environmental Factors to Enable Collective Access Approaches to the Design of Captioning Technology. Doctoral Consortium. In Proceedings of the 24<sup>th</sup> ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22). ACM, New York, NY, USA. <https://doi.org/10.1145/3517428.3550417>
- [5] 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>

## ACCEPTED WORKSHOP PAPERS

- [1] **Emma J. McDonnell**. 2022. Time to Think about Time. For the workshop "Dreaming Disability Justice in HCI," *CHI 2022*, New Orleans, LA.

- [2] **Emma J. 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.

"\*" signals that authors should be considered co-first authors of this publication.

## Honors & Awards

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- 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
- DENNIS LANG AWARD May 2023
- Awarded annually by UW's Disability Studies Program to undergraduate and graduate students who demonstrate academic excellence in disability studies and a commitment to disability-related social justice issues
- 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

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- DIRECTED RESEARCH GROUP: CURRENT TRENDS IN ACCESSIBILITY RESEARCH Fall 2020, 2021, 2022, 2023  
*Facilitator*
- Organize, plan, and facilitate weekly discussions of accessibility papers published in CHI and ASSETS that year with HCDE community members ranging from first year undergraduates to post-doctoral scholars
  - 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, grading, and planning weekly section content
- 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

## Selected Invited Talks & Panels

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| ADVANCED TOPICS IN ACCESSIBILITY, UNIVERSITY OF MICHIGAN<br><i>Guest Lecturer for Dr. Dhruv Jain</i> <ul style="list-style-type: none"><li>Disability History for Computer Scientists</li></ul>  | September 2023                         |
| HCDE 210 Explorations in Human-Centered Design<br><i>Guest Lecturer for Dr. Arpita</i> <ul style="list-style-type: none"><li>Toward Collective Access in Captioning Design</li></ul>   | August 2023                            |
| ACCESSHACK, NORTHEASTERN UNIVERSITY<br><i>Panelist</i> <ul style="list-style-type: none"><li>Disabled Perspectives on Accessibility</li></ul>  | July 2023                              |
| CSE-P 590 THE FUTURE OF ACCESSIBLE TECHNOLOGY<br><i>Guest Lecturer for Dr. Jennifer Mankoff</i> <ul style="list-style-type: none"><li>Chronically Under-Addressed: Considerations for HCI Accessibility Practice with Chronically Ill People</li></ul>   | February 2023                          |
| CSCI 327 INCLUSIVE TECHNOLOGY DESIGN, OBERLIN COLLEGE<br><i>Guest Lecturer for Dr. Emily Wang</i> <ul style="list-style-type: none"><li>Disability History for Computer Science</li></ul>  | February 2023                          |
| ACCESSCOMPUTING WEBINAR<br><i>Presenter and Panelist</i> <ul style="list-style-type: none"><li>Considerations for Technology Design for People with Chronic Illnesses</li></ul>  | January 2023                           |
| ACCESS LUNCH, CARNEGIE MELLON UNIVERSITY<br><i>Guest Speaker</i> <ul style="list-style-type: none"><li>Toward Collective Access in Captioning Design</li></ul>   | December 2022                          |
| UW ALLEN SCHOOL OF COMPUTER SCIENCE AND ENGINEERING ACCESSIBILITY COLLOQUIUM<br><i>Guest Speaker</i> <ul style="list-style-type: none"><li>Chronically Under-Addressed: Considerations for HCI Accessibility Practice with Chronically Ill People</li></ul>  | November 2022                          |
| HCDE 315 and 515 ACCESSIBILITY AND INCLUSIVE DESIGN<br><i>Guest Lecturer for Dr. Sarah Coppola</i> <ul style="list-style-type: none"><li>Disability Studies for HCI and Design Practice</li></ul>  | April 2022, October 2022, January 2023 |
| ACCESSIBILITY, HCI, AND AGING GROUP, UNIVERSITY OF MICHIGAN<br><i>Guest Speaker</i> <ul style="list-style-type: none"><li>Toward Collective Access in Captioning Design</li></ul>  | October 2022                           |
| HCDE 515 ACCESSIBILITY AND INCLUSIVE DESIGN, UNIVERSITY OF WASHINGTON<br><i>Guest Lecturer for Dr. Sarah Coppola</i> <ul style="list-style-type: none"><li>Social, Environmental, and Technical: Factors at Play in the Current Use and Future Design of Small-Group Captioning</li></ul>  | July 2021                              |
| SOCIETY FOR DISABILITY STUDIES<br><i>Panelist</i> <ul style="list-style-type: none"><li>Devva Kasnitz, Jen Mankoff, Meryl Alper, <b>Emma McDonnell</b>, Kelly Mack, and Venkatesh Potluri. April 18, 2021. Human Computer Interaction Folk Have Found Disability Studies: Playing Together Well! <i>Society for Disability Studies @ Ohio State University Conference 2021</i></li></ul> | April 2021                             |
| HCI 05499 - SPECIAL TOPICS IN HCI: ACCESSIBILITY, CARNEGIE MELLON UNIVERSITY<br><i>Guest Lecturer for Dr. Patrick Carrington</i> <ul style="list-style-type: none"><li>Social, Environmental, and Technical: Factors at Play in the Current Use and Future Design of Small-Group Captioning</li></ul>  | March 2021                             |

## Work Experience

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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

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UNIVERSITY OF WASHINGTON

- Adrian Rodriguez, PhD Human Centered Design and Engineering, 2022-Present
- Weerachet (Pitch) Sinlapanuntakul, PhD Human Centered Design and Engineering, 2023-Present
- Andy Moon, M.S. Human Centered Design and Engineering, 2020-Present
- Lucy Jiang, B.S. Computer Science and Engineering, 2021-2022
- Ana Liu, M.S. Human Centered Design and Engineering, 2019-2022
- Jazz Ang, M.S. Human Centered Design and Engineering 2021-2022

## Volunteer/Service

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CSCW 2023 STUDENT VOLUNTEER

October 2023

- Part of the student team conducting tasks necessary to running the CSCW 2023 conference

ASSETS 2022 VIRTUAL CO-CHAIR

November 2021-October 2022

- Member of the ASSETS 2022 Organizing Committee, responsible for planning and executing all virtual aspects of the 2022 hybrid conference

UAW 4121 CONTRACT ENFORCEMENT

January 2022 – Present

- Member of contract enforcement for UAW chapter #4121, the union that represents Academic Student Employees, Postdocs, and Research Scientists and Engineers at the University of Washington
- Responsible for meeting with students who suspect they have been harmed by a contract violation, investigating the facts of their case, representing them in meetings with administrators, and, when appropriate, supporting students in a contractual grievance process
- Train new members and support other contract enforcement members in their cases

HCDE PhD STUDENT RESEARCH GRANT REVIEWER

April 2022-Present

- Providing feedback on and making decisions about PhD student applications for department grants, making decisions about \$6000 of funding annually

PhD STUDENT AMBASSADOR

October 2021-Present

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

PhD APPLICATION REVIEW

December 2020-Present

- Annually review applications for the HCDE PhD Program

PROSPECTIVE PhD VISIT COORDINATOR

March 2020-Present

- Annually plan and run activities to introduce prospective PhD students visiting HCDE to the department and to Seattle

## GIRLS WHO CODE FACILITATOR

September 2021-June 2022

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

## 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

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- CHI 2022\*, 2023, 2024
- TACCESS 2022, 2023
- ASSETS 2022
- DIS 2022
- CSCW 2022
- alt.chi 2022
- ISWC 2021

"\*" Indicates Special Recognition for Outstanding Reviews

## Skills

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