

Steven M. Goodman

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Curriculum Vitae (Feb 2025)

About Me

I am a recent Ph.D. graduate from the department of Human Centered Design & Engineering at the University of Washington, specializing in accessibility technologies and human-centered AI. My dissertation explored interactive machine learning tools for Deaf, deaf, or hard of hearing users to personalize their own sound recognition models, resulting in several publications at top HCI venues (CHI, ASSETS, IMWUT). Previously, I led the design and evaluation of an AI support tool for writers with dyslexia using large language models at Google Research, and I supported the development of novel wearable systems at NASA and the University of Minnesota.

I bring expertise in qualitative user research (studies, interviews, usability testing), iterative design and prototyping (wireframing, web applications, wearables), and translating findings into actionable product guidance (experience in academic, industry, and government contexts). I am passionate about all issues at the intersection of AI and accessibility, including: AI to assist users with disabilities; AI fairness; end-user agency and trust in AI systems; and privacy and data protection.

I am seeking industry roles where I can leverage my user research expertise to build inclusive, impactful technologies. Also open to adjacent roles in accessibility engineering, UX research, or AI product design.

Education

2018 - 2024	DOCTOR OF PHILOSOPHY in Human Centered Design & Engineering University of Washington, Seattle, WA Advisor: Dr. Leah Findlater
2018 - 2024	MASTER OF SCIENCE in Human Centered Design & Engineering University of Washington, Seattle, WA
2014 - 2018	BACHELOR OF SCIENCE in Mathematics University of Minnesota, Minneapolis, MN

Research Experience

Sept. 2018 - Dec. 2024	RESEARCH ASSISTANT, Inclusive Design Lab University of Washington, Seattle, WA Advisor: Dr. Leah Findlater <i>Led research to advance sound awareness tools for d/Deaf and hard of hearing users, including building prototypes, designing study protocols, coordinating research participants, running user study sessions, analyzing qualitative and quantitative data, and writing academic research papers.</i>
Sept. 2021 - April 2022	RESEARCH INTERN / STUDENT RESEARCHER, People + AI Research (PAIR) Team Google Research, Seattle, WA Mentor: Dr. Meredith R. Morris <i>Led research exploring large language models (LLMs) to assist writers with dyslexia. Included the development of an AI-infused web application for email-writing support followed by a user study with dyslexic participants. Resulted in publications at ASSETS and CACM.</i>

June 2015 - May 2018	RESEARCH ASSISTANT, Wearable Technology Lab University of Minnesota, Minneapolis, MN Mentor: Dr. Lucy E. Dunne <i>Developed process for conversion of PCB designs to stitch patterns for electronic textiles, leading to Honorable Mention at ISWC 2017.</i>
Summer 2017	RESEARCH INTERN, Space Suit Assembly Team NASA Johnson Space Center, Houston, TX Mentor: Ian Meginnis <i>Assisted in human factors evaluation of operational effort for next-generation Z-2 spacesuit based on CO2 expenditure.</i>
Summer 2016	RESEARCH INTERN, Wearable Electronics Application and Research Lab NASA Johnson Space Center, Houston, TX Mentor: Cory Simon <i>Redesigned personal CO2 monitor housing to improve wearability in microgravity, expedite assembly, and accommodate new hardware.</i>

Publications

- 2025 ¹⁷ **SPECTRA: PERSONALIZABLE SOUND RECOGNITION FOR DEAF AND HARD OF HEARING USERS THROUGH INTERACTIVE MACHINE LEARNING**
Steven Goodman, Emma McDonnell, Jon E. Froehlich, Leah Findlater
ACM CHI 2025, [to appear](#)
- 2024 ¹⁶ **HUMAN-CENTERED SOUND RECOGNITION TOOLS FOR DEAF AND HARD OF HEARING USERS**
Steven Goodman
Doctoral Dissertation, University of Washington ([PDF](#) | [ProQuest](#))
- 2023 ¹⁵ **LAMPOST: AI WRITING ASSISTANCE FOR ADULTS WITH DYSLEXIA USING LARGE LANGUAGE MODELS**
Steven Goodman, Andy Coenen, Aaron Donsbach, Tiffanie N. Horne, Michal Lahav, Robert MacDonald, Rain Breaw Michaels, Ajit Narayanan, Mahima Pushkarna, Rachel Sweeney, Meredith Ringel Morris
Communications of the ACM Vol. 67, No. 9 ([PDF](#) | [doi](#))
- ¹⁴ **“EASIER OR HARDER, DEPENDING ON WHO THE HEARING PERSON IS”: CODESIGNING VIDEOCONFERENCING TOOLS FOR SMALL GROUPS WITH MIXED HEARING STATUS**
 Emma McDonnell, Soo Hyun Moon, Lucy Jiang, **Steven Goodman**, Raja Kushalnagar, Jon E. Froehlich, Leah Findlater
ACM CHI 2023 ([PDF](#) | [doi](#))
- 2022 ¹³ **LAMPOST: DESIGN AND EVALUATION OF AN AI-ASSISTED EMAIL WRITING PROTOTYPE FOR ADULTS WITH DYSLEXIA**
Steven Goodman, Andy Coenen, Aaron Donsbach, Tiffanie N. Horne, Michal Lahav, Robert MacDonald, Rain Breaw Michaels, Ajit Narayanan, Mahima Pushkarna, Rachel Sweeney, Meredith Ringel Morris
ACM ASSETS 2022, [Best Paper Honorable Mention](#) ([PDF](#) | [doi](#) | [video](#))
- ¹² **SOUNDWATCH: DEEP LEARNING FOR SOUND ACCESSIBILITY ON SMARTWATCHES**
 Dhruv Jain, Hung Ngo, Pratyush Patel, **Steven Goodman**, Khoa Nguyen, Rachel Grossman-Kahn, Leah Findlater, Jon Froehlich
Communications of the ACM Vol. 65, No. 6 ([PDF](#) | [doi](#))

- 2021 11 **PROTOSOUND: A PERSONALIZED, SCALABLE SOUND RECOGNITION SYSTEM FOR D/DEAF AND HARD-OF-HEARING USERS**
Dhruv Jain, Khoa Nguyen, *Steven Goodman*, Rachel Grossman-Kahn, Hung Ngo, Aditya Kusupati, Ruofei Du, Alex Olwal, Leah Findlater, Jon Froehlich
ACM CHI 2022 ([PDF](#) | [doi](#) | [video](#))
- 2021 10 **TOWARD USER-DRIVEN SOUND RECOGNIZER PERSONALIZATION WITH PEOPLE WHO ARE DEAF OR HARD OF HEARING**
Steven Goodman, Ping Liu, Dhruv Jain, Emma J. McDonnell, Jon Froehlich, Leah Findlater
ACM IMWUT 2021 ([PDF](#) | [doi](#) | [video](#))
- 9 **SOCIAL, ENVIRONMENTAL, AND TECHNICAL: FACTORS AT PLAY IN THE CURRENT USE AND FUTURE DESIGN OF SMALL-GROUP CAPTIONING**
Emma McDonnell, Ping Liu, *Steven Goodman*, Raja Kushalnagar, Jon Froehlich, Leah Findlater
PACMHCI CSCW 2021, *Honorable Mention* ([PDF](#) | [doi](#))
- 2020 8 **EVALUATING SMARTWATCH-BASED SOUND FEEDBACK FOR DEAF AND HARD-OF-HEARING USERS ACROSS CONTEXTS**
Steven Goodman, Susanne Kirchner, Rose Guttman, Dhruv Jain, Jon Froehlich, Leah Findlater
ACM CHI 2020 ([PDF](#) | [doi](#))
- 7 **SOUNDWATCH: EXPLORING SMARTWATCH-BASED DEEP LEARNING APPROACHES TO SUPPORT SOUND AWARENESS FOR DEAF AND HARD OF HEARING USERS**
Dhruv Jain, Hung Ngo, Pratyush Patel, *Steven Goodman*, Leah Findlater, Jon Froehlich
ACM ASSETS 2020, *Best Artifact Award* ([PDF](#) | [doi](#))
- 6 **HOLOSOUND: COMBINING SPEECH AND SOUND IDENTIFICATION FOR DEAF OR HARD OF HEARING USERS ON A HEAD-MOUNTED DISPLAY**
Ru Guo, Robin Yiru Yang, Johnson Kuang, Xue Bin, Dhruv Jain, *Steven Goodman*, Leah Findlater, Jon Froehlich
ASSETS '20: Proceedings of the 22nd International ACM SIGACCESS Conference on Computers and Accessibility ([PDF](#) | [doi](#))
- 5 **FIELD STUDY OF A TACTILE SOUND AWARENESS DEVICE FOR DEAF AND HARD OF HEARING USERS**
Dhruv Jain, Brendon Chiu, *Steven Goodman*, Chris Schmandt, Leah Findlater, Jon Froehlich
ACM ISWC 2020 ([PDF](#) | [doi](#))
- 4 **HOMESOUND: AN ITERATIVE FIELD DEPLOYMENT OF AN IN-HOME SOUND AWARENESS SYSTEM FOR DEAF OR HARD OF HEARING USERS**
Dhruv Jain, Kelly Mack, Akli Amrous, *Steven Goodman*, Matt Wright, Leah Findlater, Jon Froehlich
ACM CHI 2020 ([PDF](#) | [doi](#))
- 2019 3 **SOCIAL TENSIONS WITH HEAD-MOUNTED DISPLAYS FOR ACCESSIBILITY**
Steven Goodman, Dhruv Jain, Jon Froehlich, Brock Craft, Leah Findlater
ACM CHI 2019, Social HMD Workshop ([PDF](#))
- 2 **FAIRNESS ISSUES IN AI SYSTEMS THAT AUGMENT SENSORY ABILITIES**
Leah Findlater, *Steven Goodman*, Yuhang Zhao, Shiri Azenkot, Margot Hanley
ACM SIGACCESS Accessibility and Computing, Oct 2019, Issue 125 ([PDF](#) | [doi](#))
- 2017 1 **SURFACE-MOUNT MANUFACTURING FOR E-TEXTILE CIRCUITS**
Md. Tahmidul Islam Molla, *Steven Goodman*, Nicholas Schleif, Mary Ellen Berglund, Cade Zacharias, Crystal Compton, Lucy E. Dunne
ACM ISWC 2017, *Honorable Mention (top 3% of submissions)* ([doi](#))

Teaching Experience

Spring 2020	TEACHING ASSISTANT, Accessibility and Inclusive Design (HCDE 598A) Dept. of Human Centered Design and Engineering, University of Washington, Seattle, WA Instructor: Dr. Leah Findlater
Fall 2019	TEACHING ASSISTANT, Interactive Systems Design and Technology (HCDE 310A) Dept. of Human Centered Design and Engineering, University of Washington, Seattle, WA Instructor: Dr. Sean Munson

Selected Awards and Honors

2022	HONORABLE MENTION, 2022 ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22) Goodman , Coenen, Donsbach, Horne, Lahav, MacDonald, Michaels, Narayanan, Pushkarna, Sweeney, Morris. “LaMPost: Design and Evaluation of an AI-assisted Email Writing Prototype for Adults with Dyslexia”
2020	GRADUATE RESEARCH FELLOWSHIP, National Science Foundation (est. \$138,000) <i>NSF GRFP</i> . Awarded to top graduate student applicants in NSF-supported STEM fields. Provides financial support in the form of a stipend and tuition waiver. BEST ARTIFACT AWARD, 2020 ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '20) Jain, Ngo, Patel, Goodman , Findlater, Froehlich. “SoundWatch: Exploring Smartwatch-based Deep Learning Approaches to Support Sound Awareness for Deaf and Hard of Hearing Users.” (Forbes Yahoo News UW News)
2019	RUNNER UP, Madrona Prize Jain, Mack, Goodman , Findlater, Froehlich. “HomeSound: Exploring Sound Awareness in the Home for People Who Are Deaf and Hard of Hearing.” University of Washington. (Bloomberg GeekWire)
2018	UNDERGRADUATE RESEARCH OPPORTUNITIES GRANT, University of Minnesota (\$1,800) Goodman , Dunne. “Haptic Feedback Garments for Visual Accessibility.”
2017	HONORABLE MENTION, 2017 ACM International Symposium on Wearable Computers (ISWC '17) Molla, Goodman , Schleif, Berglund, Zacharias, Compton, Dunne. “Surface-Mount Manufacturing for E-Textile Circuits.” Top 3% of submissions.
2014 - 2018	SCHOLARSHIPS, University of Minnesota Merit-based awards from the Tozer Foundation (\$10,000), A. & A. Berggren (\$8,000), Lemberg Engineering (\$4,000).