Steven M. Goodman

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Curriculum Vitae (Jan 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 user research (study design, interviewing, usability testing), rapid prototyping (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 currently on the job market and 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

Sept 2018 - Dec 2024

UNIVERSITY OF WASHINGTON, Seattle, WA

PhD in Human Centered Design & Engineering

Advisor: Dr. Leah Findlater

Sept 2014 - May 2018

UNIVERSITY OF MINNESOTA, Minneapolis, MN

Bachelor of Science in Mathematics, Chemistry Minor

Research Experience

Sept. 2018 - Dec. 2024

RESEARCH ASSISTANT, Inclusive Design Lab

University of Washington, Seattle, WA

Advisor: Dr. Leah Findlater

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.

Sept. 2021 - April 2022

RESEARCH INTERN / STUDENT RESEARCHER, People + AI Research (PAIR) Team

Google Research, Seattle, WA

Mentor: Dr. Meredith R. Morris

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.

June 2015 - May 2018

RESEARCH ASSISTANT, Wearable Technology Lab

University of Minnesota, Minneapolis, MN

Mentor: Dr. Lucy E. Dunne

Developed process for conversion of PCB designs to stitch patterns for electronic textiles, leading to Honorable Mention at ISWC 2017.

Summer 2017

RESEARCH INTERN, Space Suit Assembly Team

NASA Johnson Space Center, Houston, TX

Mentor: Ian Meginnis

Assisted in human factors evaluation of operational effort for next-generation Z-2 spacesuit based on CO2 expenditure.

Summer 2016

RESEARCH INTERN, Wearable Electronics Application and Research Lab

NASA Johnson Space Center, Houston, TX

Mentor: Cory Simon

Redesigned personal CO2 monitor housing to improve wearability in microgravity, expedite assembly, and accommodate new hardware.

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 (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 (PDF | doi)

[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

ACM ASSETS 2020, poster (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)**
NSF GRFP. 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).