

# Manaswi Saha

HCI RESEARCH SCIENTIST

Accenture Labs, 415 Mission St., San Francisco, CA - 94105, USA

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## Overview

An Applied R&D Scientist with expertise in human-centered technology design and development and multi-disciplinary research and 12+ years of experience, leveraging emerging technologies for building innovative AI-driven immersive systems and human experiences.

**Core Expertise:** future of work, product and service innovation, business transformation, accessibility, healthcare, sustainability

- Identify, prioritize, and lead research agendas and roadmaps that generate insights to inform technology innovation strategies for business reinvention and product innovation
- Identify and utilize best practices in human-centered technology design and development for business use cases by conducting user studies and building proof-of-concept prototypes

**Technical Areas of Interest:** Human-AI/agent interaction and experiences • AI assistants — multimodal conversational AI, always-on contextual AI, emotion AI • AR — visual, audio, and geospatial

**Specialties:** human-computer interaction, user-centered design, design space development, computer-mediated communication, emerging tech, domain-specific problem discovery and understanding, user studies, interviews, storytelling, cross-functional teams/collaborations and problems

## Education

### University of Washington

Seattle, USA

PH.D. IN COMPUTER SCIENCE AND ENGINEERING • M.S. IN COMPUTER SCIENCE AND ENGINEERING

September 2017 - August 2022

Advisor: Prof. Jon Froehlich • Google PhD Fellowship 2020 - 2022 • Dissertation: *Designing Interactive Data-Driven Tools for Understanding Urban Accessibility at Scale*

### University of Maryland

College Park, USA

PH.D. IN COMPUTER SCIENCE - transferred to University of Washington

August 2015 - August 2017

Advisor: Prof. Jon Froehlich • Dean's Fellowship 2015 - 2017

### Vellore Institute of Technology (VIT) University

Vellore, India

MASTER OF COMPUTER APPLICATIONS (MCA)

July 2009 - May 2012

Top 3 in the MCA batch of 2012

### University of Mumbai

Mumbai, India

BACHELOR OF SCIENCE - INFORMATION TECHNOLOGY (B.Sc.IT)

June 2006 - April 2009

Top 3 in the B.Sc.IT batch of 2009

## Research and Industry Experience

### Accenture Labs

San Francisco, USA

ASSOCIATE PRINCIPAL RESEARCHER • DIGITAL EXPERIENCES RESEARCH GROUP

September 2022 - present

Team Lead (s): Alex Kass, Mirjana Spasojevic, and Mike Kuniavsky

Using Human-AI Interaction Lens to Apply Emerging Technologies for Business Problems

Lead HCI Researcher across projects utilizing HAI lens to study and inform enterprise applications • Creating new AI-assisted workflows and pipelines for diverse worker profiles and industry verticals (e.g., utilities, healthcare, media and entertainment) • Exploring multimodal conversational AI agents, biosensing, and applied neuroscience for various business use cases (e.g., workforce training, coding, filmmaking, document understanding, policy compliance) • Conducting user studies and developing proof-of-concept prototypes to demonstrate different types of AI assistants • Through client presentations, translating scientific and research findings to business contexts, demonstrate value, and inform decisions in the downstream business innovation and client delivery units • Working with \$1B business clients on technology innovation projects

Designing Person-aware AI Tools to Support Knowledge Work in Cross-Disciplinary Contexts

Built and leading the research agenda to create generative AI-assisted tools for supporting cross-disciplinary knowledge exchange • Building and testing prototypes using LLMs and web-based tools • Communicating with industry leaders on the value of these tools across a variety of business use cases • Published several academic research papers as the Principal Investigator • Mentored 5 PhD students during summer internships

• **Paper(s):** P.12, P.13

Designing Audio-AR based Guidance Tools to Support Physical Tasks

Built and leading the research agenda to create tools for supporting physical task guidance using Audio AR technology • Leading an ongoing collaboration with Cornell Tech on exploring the uses of audio-only AR interactions for healthcare tasks • Research advisory role for 3 PhD student collaborators and in-lab summer interns • Communicating the business value via client presentations and external blogs • **Paper(s):** EA.11, B.1-B.3

Exploring Bystander Human Reactions for Robot Error Detection

Collaboration with Cornell Tech on HRI research for using human responses to detect robot errors • Advised PhD students on academic publications

• **Paper(s):** P.10-11, EA.9-10

## University of Washington

Seattle, USA

GRADUATE RESEARCH ASSISTANT • MAKEABILITY LAB

September 2017 – July 2022

Advisor: Prof. Jon Froehlich • Collaborator(s): Prof. Jeffrey Heer (UW)

### Designing Interactive Tools for Visualizing and Modeling Urban Accessibility At Scale

Led formative work around interactive visualization tools for urban accessibility using Project Sidewalk data • Built geovis prototypes using mapbox, leaflet, d3, and kepler.gl • Designed and ran qualitative studies (N=25) to understand multi-stakeholder needs and sensemaking practices of stakeholders, including policymakers, disability advocates, government officials, and people with disabilities • **Paper(s)**: P.9, EA.4-5, EA.7-8, T.1

### Urban Accessibility as a Socio-Political Problem

Led a formative interview study with five stakeholders (N=25)—policymakers, transportation department officials, people with disabilities, caregivers, and accessibility advocates—to understand the socio-political challenges impeding accessible infrastructure development and the role of technology to facilitate cross-stakeholder interactions • **Paper(s)**: P.8, T.1

### Project Sidewalk: Enabling Crowd-powered Sidewalk Accessibility Data Collection

Lead researcher and engineer of Project Sidewalk (PS), a Google Street View based crowdsourcing tool • Led a 10-person R&D team to develop, publicly deploy, and maintain PS tool • Wrote 15.5K lines of code for HTML/CSS/JS frontend and Java/Scala/PostgreSQL backend • Generated dataset with 250,000+ labels over a 18-month deployment in Washington DC • Designed and ran interview studies with multiple stakeholders (N=14) in the government and the disability community • **Paper(s)**: P.6, EA.3, EA.5-6, T.1 • <http://projectsidewalk.io>

## Autodesk Research

Toronto, Canada

RESEARCH INTERN • HCI/VIS: USER INTERFACE RESEARCH GROUP • REMOTE INTERNSHIP

June 2020 – October 2020

Mentor: Justin Matejka

### Understanding people's perception of metrics, especially environmental sustainability metrics

Explored how people assessed different metrics to gain insights towards effective communication of sustainability information • Built a HTML/CSS/JS web app for an online study with 50+ sustainability experts and novices on people's abilities in making assessments for length, weight, cost, power, and carbon footprint

## Microsoft Research

Redmond, USA

RESEARCH INTERN • ABILITY AND ENABLE GROUPS

June 2018 – September 2018

Mentors: Meredith Ringel Morris, Ed Cutrell, Alex Fiannaca, and Melanie Kneisel

### Last-few-meters Wayfinding Challenge for People with Visual Impairments

Engineered Landmark AI, a mobile app prototype using navigational 3D-audio and computer vision algorithms for addressing the last-few-meters challenge in GPS systems • Conducted a design-probe study to understand and address wayfinding challenges for visually impaired users • Ran a survey and an interview study with 12 participants to create the design space for AI-driven navigation tools • **Paper(s)**: P.7

## Adobe Research

San Jose, USA

RESEARCH INTERN • BIG DATA EXPERIENCE LAB

May 2016 – August 2016

Mentors: Tom Jacobs and David Tompkins

### Beacon-based Personalized Information Delivery

Created an ecosystem design and prototype for Bluetooth beacon-based personalized information delivery for the digital marketing domain that bridges the online world with the physical (brick and mortar stores) • **Patent** filed as the lead in Feb 2017 (PA.1)

## University of Maryland

College Park, USA

GRADUATE RESEARCH ASSISTANT • MAKEABILITY LAB

August 2015 – August 2017

Advisor: Prof. Jon Froehlich

### Novice Thermography

Explored the use of thermal cameras mounted on smartphones by novices (e.g., DIY enthusiasts) to conduct thermography in homes • Analyzed the interview data for a 4-week field study with 10 participants • **Paper(s)**: P.5, EA.2

## Indraprastha Institute of Information Technology Delhi

New Delhi, India

RESEARCH ASSOCIATE • MOBILE AND UBIQUITOUS COMPUTING LAB

November 2012 – July 2015

Advisor: Prof. Amarjeet Singh • Collaborator(s): Prof. Anind Dey (UW), Prof. Yuvraj Agarwal (CMU), Prof. Pushpendra Singh (IIIT-Delhi)

### Personal Energy Monitoring in Smart Homes

Led research that explored using smartphone sensors with smart electricity meter for inferring and aggregating daily energy consuming activities to individuals • Engineered EnergyLens+, a real-time energy apportionment and feedback system for smart living spaces to provide real-time personal energy usage information; a Python/Django/MySQL server and an Android app for visualizing feedback • Evaluated the system with a small-scale deployment in single and multi-occupant homes over 2 weeks • **Paper(s)**: P.2, P.3

### SensorAct: An Occupant-aware Middleware for Building Energy Management

Led a major engineering effort that allowed SensorAct, a Java/MongoDB-based middleware to operate hardware sensor modules, mounted with ambient environmental sensors, through an online interface and share their access and control with building occupants • **Paper (s)**: P.4, EA.1

# Publications

## PEER-REVIEWED CONFERENCE PAPERS

- 2025 P.12 **Exploring the Design Space of Real-time LLM Knowledge Support Systems: A Case Study of Jargon Explanations**  
Y. Liu, A. Shah, J. Ackerman, **M. Saha**  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems. Yokohama, Japan. (Acceptance Rate: 24.9%)
- P.11 **Steering AI-Driven Personalization of Scientific Text for General Audiences**  
T. Kim, D. Agarwal, J. Ackerman, **M. Saha**  
CSCW: ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (*In Submission*). Melbourne, Australia.
- 2024 P.10 **Bad Idea, Right? Exploring Anticipatory Human Reactions for Outcome Prediction in HRI**  
M. T. Parreira, S. G. Lingaraju, A. G. Ramirez-Aristizabal, A. Bremers, **M. Saha**, M. Kuniavsky, W. Ju  
ROMAN: IEEE International Conference on Robot and Human Interactive Communication. Los Angeles, USA.
- 2022 P.9 **Visualizing Urban Accessibility: Investigating Multi-stakeholder Perspectives through a Map-based Design Probe Study**  
**M. Saha**, S. Patil, E. Cho, E. Y. Cheng, C. Horng, D. Chauhan, R. Kangas, R. McGovern, A. Li, J. Heer, and J. E. Froehlich  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems. New Orleans, USA. (Acceptance Rate: 24.7%)
- 2020 P.8 **Urban Accessibility as a Socio-Political Problem: A Multi-Stakeholder Analysis**  
**M. Saha**, D. Chauhan, S. Patil, R. Kangas, J. Heer, and J. E. Froehlich  
CSCW: ACM Conference on Computer-Supported Cooperative Work and Social Computing. Virtual. (Acceptance Rate [minor rev.]: 7.9%)
- 2019 P.7 **Closing the Gap: Designing for the Last-Few-Meters Wayfinding Problem for People with Visual Impairments**  
**M. Saha**, A. J. Fiannaca, M. Kneisel, E. Cutrell, M. R. Morris  
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility. Pittsburgh, USA. (Acceptance Rate: 26%)
- P.6 **Project Sidewalk: A Web-based Crowdsourcing Tool for Collecting Sidewalk Accessibility Data At Scale**  
 **M. Saha**, M. Saugstad, H. Maddali, A. Zeng, R. Holland, S. Bower, A. Dash, S. Chen, A. Li, K. Hara, J. Froehlich  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems. Glasgow, UK. (Acceptance Rate: 23.8%) • **Best Paper Award (Top 1%)**
- 2017 P.5 **Exploring Novice Approaches to Smartphone-Based Thermographic Energy Auditing: A Field Study**  
M. L. Mauriello, **M. Saha**, E. Brown, J. E. Froehlich  
CHI: ACM SIGCHI Conference on Human Factors in Computing Systems. Denver, USA. (Acceptance Rate: 25%)
- 2015 P.4 **SensorAct: A Decentralized and Scriptable Middleware for Smart Buildings**  
P. Arjunan\*, **M. Saha\***, H. Choi, M. Gulati, A. Singh, P. Singh, M. B. Srivastava  
IEEE UIC: IEEE International Conference on Ubiquitous Intelligence and Computing. Beijing, China. (Acceptance Rate: 30.6%)
- 2014 P.3 **WattShare: Detailed Energy Apportionment in Shared Living Spaces within Commercial Buildings**  
S. Thakur, **M. Saha**, A. Singh, Y. Agarwal  
BuildSys: ACM International Conference on Embedded Systems for Energy-Efficient Buildings. Memphis, USA. (Acceptance Rate: 27%)
- P.2 **EnergyLens: Combining Smartphones with Electricity Meter for Accurate Activity Detection and User Annotation**  
**M. Saha**, S. Thakur, A. Singh, Y. Agarwal  
e-Energy: ACM International Conference on Future Energy Systems. Cambridge, UK. (Acceptance Rate: 20%)
- 2012 P.1 **Bandwidth Management Framework for Multicasting in Wireless Mesh Networks**  
**M. Saha**, P. V. Krishna  
IJIEE: International Journal of Information and Electronics Engineering. Vol. 2, No. 3.

## DISSERTATION

- 2022 T.1 **Designing Interactive Data-Driven Tools for Understanding Urban Accessibility at Scale**  
**M. Saha**  
University of Washington. Computer Science & Engg. PhD Dissertation. Seattle, USA.

## PEER-REVIEWED POSTERS, EXTENDED ABSTRACTS, DOCTORAL COLLOQUIUM, AND WORKSHOPS

- 2024 EA.11 **Situated Conversational Agents for Task Guidance: A Preliminary User Study**  
A. Bremers\*, **M. Saha\***, A. G. Ramirez-Aristizabal  
ACM CUI: Proceedings of the 6th ACM Conference on Conversational User Interfaces. Luxembourg City, Luxembourg.
- EA.10 **A Study on Domain Generalization for Failure Detection through Human Reactions in HRI**  
M. T. Parreira, S. G. Lingaraju, A. G. Ramirez-Aristizabal, **M. Saha**, M. Kuniavsky, Wendy Ju  
HRI Workshop: Social Signal Modeling in Human-Robot Interaction. Boulder, USA.
- 2023 EA.9 **Bad Idea? Exploring Anticipatory Human Reactions for Outcome Prediction**  
M. T. Parreira, S. G. Lingaraju, A. G. Ramirez-Aristizabal, A. Bremers, **M. Saha**, M. Kuniavsky, W. Ju  
NERC: Northeast Robotics Colloquium. New Haven, USA.
- 2022 EA.8 **The Future of Urban Accessibility for People with Disabilities: Data Collection, Analytics, Policy, and Tools**  
J. E. Froehlich, Y. Eisenberg, M. Hosseini, F. Miranda, M. Adams, A. Caspi, H. Dieterich, ..., **M. Saha** et al.  
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility. Workshop. Athens, Greece.

- 2021 EA.7 **The Future of Global-Scale Spatial Data Collection and Analyses on Urban (in)Accessibility for People with Disabilities**  
J. E. Froehlich, F. Miranda, M. Hosseini, N. Bolten, A. Caspi, R. M. Cesar Jr., H. Dieterich, Y. Eisenberg, V. Pineda, **M. Saha** et al.  
Spatial Data Science Symposium. Virtual.
- 2020 EA.6 **Towards Mapping and Assessing Sidewalk Accessibility Across Sociocultural and Geographic Contexts**  
J. E. Froehlich, M. Saugstad, **M. Saha**, M. Johnson  
AVI Workshop: Data4Good - Designing for Diversity and Development. Ischia, Italy.
- 2019 EA.5 **Interactive Computational Tools for Assessing and Understanding Urban Accessibility At Scale**  
**M. Saha**  
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility. Doctoral Colloquium. SIGACCESS Newsletter. Pittsburgh, USA.
- 2018 EA.4 **Interactively Modeling and Visualizing Neighborhood Accessibility at Scale: An Initial Study of Washington DC**  
A. Li, **M. Saha**, A. Gupta, J. E. Froehlich  
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility. Poster & Demo. Galway, Ireland.
- 2017 EA.3 **A Pilot Deployment of an Online Tool for Large-Scale Virtual Auditing of Urban Accessibility**  
**M. Saha**, K. Hara, S. Behnezhad, A. Li, M. Saugstad, H. Maddali, S. Chen, J. E. Froehlich  
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility. Poster & Demo. Baltimore, USA.
- 2016 EA.2 **The Future Role of Thermography in Human-Building Interaction**  
M. L. Mauriello, M. Dahlhausen, E. Brown, **M. Saha**, J. E. Froehlich  
CHI Workshop: Future of Human-Building Interaction. San Jose, USA.
- 2013 EA.1 **SensorAct: Design and Implementation of Fine-grained Sensing and Control Sharing in Buildings**  
P. Arjunan, **M. Saha**, M. Gulati, N. Batra, A. Singh, P. Singh  
NSDI: USENIX Symposium on Networked Systems Design and Implementation. Poster. Lombard, USA.

## BLOGS

- 2023 B.3 **Audio AR — Part 3: Acoustic Digital Twin**  
W. Ju, **M. Saha**, M. Kuniavsky, D. Goedicke  
Labs Notebook Medium Blog Series. Blog. San Francisco, USA.
- B.2 **Audio AR — Part 2: Acoustic Sensing**  
D. Goedicke, **M. Saha**, W. Ju, M. Kuniavsky  
Labs Notebook Medium Blog Series. Blog. San Francisco, USA.
- B.1 **Audio AR: An Introduction – Part 1: Towards Hands-Free Eyes-Free Interaction**  
**M. Saha**, W. Ju, M. Kuniavsky, D. Goedicke  
Labs Notebook Medium Blog Series. Blog. San Francisco, USA.

## Patents

- 2017 PA.1 **Digital Content Output Control in a Physical Environment Based on a User Profile**  
**Manaswi Saha**, Tom Jacobs, David Tompkins, Peter Fransen  
Adobe Research. Filed in February 2017. Patent Pending.

## Skills

<b>Programming</b>	Python, Java, C, C++, Shell Scripting
<b>AI Tools</b>	Cursor, Gemini, Open AI GPT models
<b>Front-end</b>	HTML/CSS, JavaScript, React
<b>Web Frameworks</b>	Play, Django
<b>Backend Databases</b>	PostgreSQL, MySQL, MongoDB
<b>Visualization Tools</b>	mapbox, d3, Tableau, kepler.gl
<b>Data Analysis and Applied ML</b>	Python: pandas, numpy, matplotlib, sklearn
<b>Crowdsourcing Data</b>	Mechanical Turk, Prolific
<b>Other Tools</b>	Latex, Github, IntelliJ IDEA, Eclipse
<b>User Research</b>	Interviews, surveys, thematic analysis, affinity diagramming, stakeholder analysis

## Intern Mentorship

**Accenture Labs** Yuhan Liu (Princeton PhD), Taewook Kim (Northwestern PhD), Dhruv Agarwal (Cornell PhD), Alexandra Bremers (Cornell Tech PhD), Jiachen Li (Northeastern PhD), Aadit Shah (Ohio State Senior)

**University of Washington** Evie Yu-Yen Cheng (Masters), Emily Cho (Masters), Chris Horng (Masters), Devanshi Chauhan (Masters), Rachel Kangas (Masters), Siddhant Patil (Masters), Richard McGovern (Masters), Aileen Zeng (Sophomore), Johnson Kuang (Freshman)

**University of Maryland** Anthony Li (Senior), Aditya Dash (Senior), Steven Bower (Senior), Maria Furman (Senior), Chirag Shankar (Junior), Sage Chen (Sophomore), Ji Hyuk Bae (Freshman), Ryan Holland (High School Senior)

**IIIT-Delhi** Shailja Thakur (Masters), Vedant Das Swain (Senior)

## Honors & Awards

<b>2020 Google PhD Fellowship in HCI</b>	To support thesis work on interactive tools for urban accessibility	Seattle, USA
<b>2019 Amazon Catalyst Award</b>	To support thesis work on interactive tools for urban accessibility	Seattle, USA
<b>Best Paper Award</b>	ACM CHI 2019 for Project Sidewalk	Glasgow, UK
<b>ACM-W Scholarship</b>	ACM CHI 2016	San Jose, USA
<b>CRA-W Grad Cohort Participation Grant</b>	Grad Cohort Workshop 2016	San Diego, USA
<b>Dean's Fellowship</b>	University of Maryland, College Park (2015 – 2017)	College Park, USA
<b>Microsoft Research India Travel Grant</b>	To present at ACM e-Energy 2014	Cambridge, UK
<b>Merit Scholarship</b>	VIT University (2009 – 2012) – awarded all three years – top 3 (of 120) students	Vellore, India
<b>Certificate of Merit</b>	B.Sc.IT batch (2006 – 2009) – awarded all three years – top 3 (of 60) students	Mumbai, India
<b>Certificate of Merit</b>	Best Bachelor's (B.Sc.IT) Project	Mumbai, India

## Talks

2025	T.18	<b>Transforming Human Experiences: Designing for Real-World Impact using Data x HCI x AI</b> Guest lecture for CPSC 444 Advanced Methods For HCI: Industry Panel, University of British Columbia. Virtual. April 2025 • <b>Invited Talk</b>
2022	T.17	<b>Visualizing Urban Accessibility: Investigating Multi-stakeholder Perspectives through a Map-based Design Probe Study</b> ACM Conference on Human Factors in Computing Systems (CHI). New Orleans, USA. May 2022
2021	T.16	<b>Visualizing Urban Accessibility: Understanding Sensemaking Processes across Multiple Stakeholders</b> IEEE VIS 2021 Workshop on Visualization for Social Good. Virtual. October 2021
	T.15	<b>Designing Interactive Computational Tools for Understanding Urban Accessibility: Exploring the Nexus of Urban Informatics x Accessibility</b> Guest lecture for Computing for Social Good, University of Delaware. Virtual. April 2021 • <b>Invited Talk</b>
	T.14	<b>Designing Interactive Tools for Urban Accessibility: A Socio-Political and Socio-Technical Perspective</b> Guest Lecture for Population, Economy, and Society, IIT Kanpur. Virtual. April 2021 • <b>Invited Talk</b>
2020	T.13	<b>Designing Interactive Tools for Understanding Urban Accessibility</b> NWFSC Monster Seminar Jam Series at Northwest Fisheries Science Center, NOAA. Virtual. October 2020 • <b>Invited Talk</b>
	T.12	<b>Urban Accessibility as a Socio-Political Problem: A Multi-Stakeholder Analysis</b> ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW). Virtual. October 2020
	T.11	<b>Urban Accessibility as a Socio-Political Problem: A Multi-Stakeholder Analysis</b> Accessibility Colloquium, University of Washington. Seattle, USA. October 2020
	T.10	<b>Project Sidewalk: Mapping the Accessibility of the Physical World At Scale Using Interactive Computational Tools</b> Google Tech Talk. Seattle, USA. January 2020 • <b>Invited Talk</b>
2019	T.9	<b>Closing the Gap: Designing for the Last-Few-Meters Wayfinding Problem for People with Visual Impairments</b> ACM International SIGACCESS Conference on Computers and Accessibility (ASSETS). Pittsburgh, USA. October 2019
	T.8	<b>Project Sidewalk: Mapping the Accessibility of the Physical World At Scale Using Interactive Computational Tools</b> Washington State Ridesharing Organization (WSRO) Annual Conference. Spokane, USA. September 2019 • <b>Keynote Speaker</b>
	T.7	<b>Project Sidewalk: A Web-based Crowdsourcing Tool for Collecting Sidewalk Accessibility Data At Scale</b> ACM Conference on Human Factors in Computing Systems (CHI). Glasgow, UK. May 2019 • <b>Best Paper Award (Top 1%)</b>
2017	T.6	<b>Bridging the Pedestrian Accessibility Informational Gap: User-Facing Applications and Large-Scale Virtual Auditing</b> Affiliates Research Day, University of Washington. Seattle, Washington. November 2017
	T.5	<b>Project Sidewalk: Assessing Urban Accessibility using Crowdsourcing and Google Street View</b> HCIL Symposium, University of Maryland. College Park, USA. May 2017
	T.4	<b>Project Sidewalk: Characterizing Physical World Accessibility at Scale</b> WalkHackNight II. Arlington, USA. February 2017 • <b>Invited Talk</b>
2016	T.3	<b>Interactive Computational Tools For Accessibility</b> Diversity in Computing Summit, University of Maryland. College Park, USA. November 2016
	T.2	<b>Tech+Design: Interaction Design For A Purpose</b> Technica: Tech+X Talk Series. College Park, USA. November 2016
2014	T.1	<b>EnergyLens: Combining Smartphones with Electricity Meter for Accurate Activity Detection and User Annotation</b> Fifth International Conference on Future Energy Systems (ACM e-Energy). Cambridge, UK. June 2014

## Press and Media Coverage

Apr 2022	Accessible Sidewalks for Inclusive Cities	World Bank's Sustainable Cities Blog	<a href="#">↗</a>
Dec 2021	Behind the effort to make sidewalks accessible	NPR's "Here and Now"	<a href="#">↗</a>
May 2021	Make The World Better With One Of These Nine Ideas	New York Times	<a href="#">↗</a>
Oct 2020	Manaswi Saha wins 2020 Google Fellowship for advancing computing research with social impact	Allen School News	<a href="#">↗</a>
Oct 2020	Manaswi Saha, Lead Graduate Student for Project Sidewalk, Wins Google Fellowship	Urbanalytics News	<a href="#">↗</a>
Oct 2020	Announcing the 2020 Google PhD Fellows	Google AI News	<a href="#">↗</a>
Dec 2019	Can Mapping Sidewalks Increase Ridership?	National Center for Mobility Management	<a href="#">↗</a>
Oct 2019	Manaswi Saha wins Amazon Catalyst Award to develop techniques for visualizing urban accessibility at scale	Allen School News	<a href="#">↗</a>
Oct 2019	Amazon Catalyst announces new round of Fellows	CoMotion News	<a href="#">↗</a>
May 2019	Graduate students want to map the world's sidewalks for their accessibility	KIRO 7 News	<a href="#">↗</a>
May 2019	Players label accessibility of city streets in new game	IEEE GlobalSpec Electronics 360	<a href="#">↗</a>
Apr 2019	Newberg streets second in nation to be studied with new accessibility metric	The Newberg Graphic	<a href="#">↗</a>
Apr 2019	Seattle's got terrible sidewalks. You can help fix them.	Crosscut	<a href="#">↗</a>
Apr 2019	Project Sidewalk helps users map accessibility around Seattle, other cities	UW News	<a href="#">↗</a>
Feb 2017	Make D.C.'s sidewalks more accessible with this crowd-sourced map	Curbed DC	<a href="#">↗</a>
Feb 2017	University of Maryland project looks to crowdsource an accessibility map of DC's sidewalks	Mobility Lab	<a href="#">↗</a>
Jan 2017	Clear the Way - UMD Computer Scientists Seek Public Help Mapping Sidewalk Accessibility	Terp Magazine	<a href="#">↗</a>
Nov 2016	How Project Sidewalk is making DC more accessible	Technical.ly	<a href="#">↗</a>
Nov 2016	New tool makes DC sidewalks more accessible for everyone	WUSA9 News	<a href="#">↗</a>
Oct 2016	A UMD team made an app highlighting D.C. areas inaccessible to people with disabilities	The Diamondback	<a href="#">↗</a>
Oct 2016	You Can Help Map the Accessibility of the World	Next City	<a href="#">↗</a>
Sep 2016	Missing sidewalks? There's an app for that	Greater Greater Washington	<a href="#">↗</a>

## Teaching Experience

### University of Washington

Seattle, USA

GRADUATE TEACHING ASSISTANT

January 2018 – June 2020

Paul G. Allen School of Computer Science and Engineering

CSE482A: Capstone Software Design to Empower Underserved Populations

Spring 2020

CSE599H: Crowdsourcing, Citizen Science, and Large-scale Online Experimentation

Winter 2020

CSE599S: The Future of Access Technologies

Fall 2019

CSE441: Advanced HCI: Advanced User Interface Design, Prototyping, And Evaluation

Spring 2018, Spring 2019

CSE440: Introduction to HCI

Winter 2018, Fall 2018, Winter 2019

### University of Maryland

College Park, USA

GRADUATE TEACHING ASSISTANT

August 2015 – May 2016

Department of Computer Science

CMSC132: Object-Oriented Programming II

Spring 2016

CMSC131: Object-Oriented Programming I

Fall 2015

## Service

<b>2025</b>	ACM CHI 2025 Reviewer
	ACM ICMI 2025 Reviewer
<b>2024</b>	ACM CHI 2024 Reviewer
	ACM ICMI 2024 Reviewer
<b>2023</b>	University of California Berkeley CS Scholars - Panelist
	ACM CHI 2024 Reviewer
	ACM ASSETS 2023 Reviewer
<b>2022</b>	University of California Berkeley CS Scholars - Panelist
	ASSETS 2022 Workshop Organizing Team
	CHI 2023 Reviewer
<b>2021</b>	SDSS 2021 Workshop Organizing Team
	ACM CHI 2022 Reviewer
	IEEE VIS 2022 Reviewer
<b>2020</b>	ACM CHI 2021 Reviewer
	ACM CSCW 2020 Reviewer - Special Recognition for Outstanding Review
<b>2019</b>	ACM CHI 2020 Reviewer
	Incoming UW CSE PhD Students' Mentor
<b>2018</b>	DUB PhD Student Retreat Co-organizer
	UW HCI Skillshares Organizer
	ACM CHI 2018 Student Volunteer
<b>2016</b>	Adobe Girls Who Code Mentor
	ACM CHI 2016 Student Volunteer