

# Niharika Mathur

Human-Centered Computing (HCC) PhD Candidate,  
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**Research Interests:** Human-Centered AI; Human-Centered Explainable AI (HCXAI); Design Research in AI; Participatory Design Methods

## Education

### Georgia Institute of Technology (Georgia Tech)

Ph.D. Candidate in Human-Centered Computing (HCC)

Advisors: Dr. Elizabeth Mynatt and Dr. Sonia Chernova

Thesis title: Designing Assistive and Explainable AI Systems for Older Adults Aging in Place

Thesis Committee: Dr. Thomas Ploetz, Dr. Mark Riedl (Georgia Tech),

Dr. James Landay (Stanford University), and Dr. Jodi Forlizzi (Carnegie Mellon University)

2021 - present

Atlanta, Georgia, US.

### Georgia Institute of Technology (Georgia Tech)

M.S. in Human-Computer Interaction (HCI)

Advisor: Dr. Elizabeth Mynatt

2019 - 2021

Atlanta, Georgia, US.

### Vellore Institute of Technology

B.Tech. in Computer Science and Engineering (CSE)

Advisor: Dr. Ilanthenral Kandasamy

2015 - 2019

Vellore, India.

## Research Publications

### Peer-reviewed Conference Publications

[C7] **Niharika Mathur**, Alisha Pradhan, Elizabeth Mynatt, Masatomo Kobayashi, John Vines, Katie Seaborn, Erin Buehler, Agata Rozga, Jenny Waycott, John Rudnik and Tamara Zubatiy. **Lead Organizer for Workshop on Technology Mediated Caregiving For Older Adults Aging in Place.** *At ACM Conference on Human Factors in Computing Systems (CHI) 2025.*

[C6] **Niharika Mathur** and Elizabeth D. Mynatt. A Research Through Design Study on AI Explanations for Collaborative Everyday Tasks. *In ACM International Conference on Supporting Group Work (GROUP Companion) 2025.*

🏆 **Best Poster Award at ACM GROUP 2025**

[C5] **Niharika Mathur**, Tamara Zubatiy, Agata Rozga, Elizabeth D. Mynatt. "Why did you say that?": Recommendations for Understanding Explainability in Conversational AI systems for Older Adults with MCI. *In International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2023.*

[C4] Tamara Zubatiy, **Niharika Mathur**, Larry Heck, Kayci Vickers, Agata Rozga, Elizabeth D. Mynatt. "I don't know how to help with that" - Learning from Limitations of Modern Conversational Agent Systems. *In ACM Conference On Computer-Supported Cooperative Work and Social Computing (CSCW) 2023.*

[C3] Tamara Zubatiy, Kayci Vickers, Jessica Saurman, Felicia Goldstein, Amy Rodriguez, **Niharika Mathur**, Elizabeth D. Mynatt. A Distributed Cognition Approach to Understanding Compensatory Calendaring Cognitive Systems of Older Adults with MCI and Their Care Partners. *In International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2023.*

[C2] **Niharika Mathur**, Kunal Dhodapkar, Tamara Zubatiy, Jiachen Li, Brian Jones, Elizabeth Mynatt. A Collaborative Approach to Support Medication Management in Older Adults with Mild Cognitive Impairment Using Conversational Assistants (CAs). *In ACM SIGACCESS Conference on Computers and Accessibility (ASSETS) 2022.*

🏆 **Best Paper Award at ACM ASSETS 2022**

[C1] Tamara Zubatiy, **Niharika Mathur**, Kayci L. Vickers, Elizabeth Mynatt. Empowering Dyads of Older Adults with MCI and their Care Partners Using Conversational Agents. *In ACM Conference on Human Factors in Computing Systems (CHI) 2021.*

## Workshop Papers

[H1] **Niharika Mathur** and Elizabeth D. Mynatt. Categorizing Sources of Information for Explanations in Conversational AI Systems in the Home for Older Adults Aging in Place. *In Workshop on Human-Centered Explainable AI (HCXAI) at ACM Conference on Human Factors in Computing Systems (CHI) 2024.*

## Journal Contributions

[J2] **Niharika Mathur**, Tamara Zubatiy, Agata Rozga and Elizabeth Mynatt. "It feels like hard work trying to talk to it": Understanding Older Adults' Experiences of Encountering and Repairing Conversational Breakdowns with AI Systems. *Under Review at the ACM Transactions on Accessible Computing.*

[J1] Zhenrui Liao, **Niharika Mathur**, Vidur Joshi, Shailendra Joshi. The Promise of Artificial Intelligence in Neuroanesthesia: An Update. *In Journal of Neuroanaesthesiology and Critical Care 2024.*

## Book Chapters

[B1] Ilanthenral Kandasamy, WB Vasantha, **Niharika Mathur**, Mayank Bisht, Florentin Smarandache. Sentiment analysis of the #MeToo movement using neutrosophy. *In Optimization Theory Based on Neutrosophic and Plithogenic Sets 2020.*

## Research and Work Experience

### **Georgia Tech, Everyday Computing Lab (ECL)**

2021 - present

PhD Researcher in the Everyday Computing Lab (ECL) advised by Dr. Elizabeth Mynatt  
Conducting research on the design of Assistive and Explainable Conversational AI systems.

### **Georgia Tech, Office of Information Technology (OIT)**

Summer 2020

User Experience Research Intern advised by David Lacy  
Conducted user research (interviews and surveys) with 36 incoming freshmen students and designed the 2020 "Welcome Home to Georgia Tech" website. Conducted usability evaluations on the website with 17 incoming freshmen students. Website gathered 543 visits in the first week.

### **Georgia Tech, Animal-Computer Interaction Lab**

Fall 2019

Graduate Researcher in the Animal-Computer Interaction lab advised by Dr. Melody Moore-Jackson  
Conducted user research (fly-on-the-wall observations and user interviews) with adopters at Atlanta Humane Society and provided design recommendations for instrumented dog toys for quantifying dog behavior to build better adoption profiles.

### **Tika Data Services**

Summer 2018

User Research Intern (Bangalore, India)  
Implemented privacy-by-design framework to design prototypes for a machine learning annotation tool and tested outcome efficiency using Monte Carlo Simulation. Conducted usability evaluations with 15 non-expert data annotators and developed concrete design guidelines for crowdsourced annotation tools to preserve annotator privacy.

### **The Upside Story (Design Agency)**

Summer 2017

Design Research Intern (Jaipur, India)  
Conducted needs analysis (interviews and contextual inquiry) and co-design sessions for 3 upcoming brands and crafted brand design strategy including website design, user research guidelines and content writing.

## Awards and Recognition

2025	<b>Best Poster Award</b>   ACM GROUP Conference
2024	<b>Top 10 Selected Papers</b>   ACM CHI HCXAI Workshop
2023	<b>Special Recognition for Outstanding Review</b>   ACM CHI Conference
2022	<b>Best Paper Award</b>   ACM ASSETS Conference
2022	<b>Innovation in Health Systems Fellowship</b>   George Family Foundation
2022	<b>Travel Scholarship</b>   ACM Award
2020	<b>GVU Travel Award</b>   Georgia Tech, School of Interactive Computing
2015-2019	<b>Academic Scholarship (Undergraduate)</b>   VIT Vellore, India

## Teaching Experience

Graduate Teaching Assistant (GTA) | Georgia Tech

**Fall 2023** Course: Explainable AI | Instructor: Dr. Sonia Chernova

**Spring 2022** Course: Digital Health | Instructor: Dr. Andrea G. Parker

**Spring 2021, 2020** Course: Human-Computer Interaction | Instructor: Dr. Elizabeth Mynatt

## Skills

### Research Methods and Analysis

Human-Centered Design, Qualitative Research study and analysis, User Interviews, Survey design, Contextual Inquiry, Think-aloud studies, In-home field deployments, Design Research Methods for AI (Research through Design), Participatory and Co-Design, Inferential Statistical Analysis, Data Visualization.

### Languages, Design Tools, Libraries and Technologies

Python, C/C++, R, HTML, JavaScript, PyTorch, Pandas, Google Cloud, MongoDB, Figma, Photoshop, Tableau.

### Relevant Coursework

HCI Foundations, Empirical Research Methods in HCI, Human-Centered Computing, Prototyping Interactive Systems, Human-Robot Interaction, Explainable AI, and Ubiquitous Computing.

## Service

### Leadership

**2025** **Associate Chair (1 AC)** | CSCW 2025 (Posters track)

**2025** **Lead Workshop Organizer** | ACM CHI 2025 in Yokohama, Japan.

**2025** **Workshop Co-Organizer** | Design for Tactile and Embodied Learning, Georgia Tech.

**2025 -** **Member** | Graduate Student Advisory Council (GSAC) for the College of Computing, Georgia Tech.

**2023 -** **Chair** | Graduate Student Council (GSC) for the School of Interactive Computing, Georgia Tech.

**2021-2024** **Member** | Student Council for the US-NSF AI Institute (AI-CARING).

**2023** **Student Volunteer (SV)** | ACM ASSETS.

**2022** **Student Volunteer (SV)** | ACM CHI.

**2018** **Area Director** | Toastmasters International (TMI), VIT Vellore, India.

**2018** **Lead Magazine Editor** | Students for the Exploration and Development of Space (SEDS-VIT), India.

### Reviewer

**2025** ACM User Interface Software and Technology (UIST).

**2025** Springer Personal and Ubiquitous Computing (PAUC).

**2025** ACM CHI Late Breaking Work (LBW).

**2024-2025** ACM Computer Supported Cooperative Work (CSCW).

**2023-2025** ACM Computer-Human Interaction (CHI).

**2024** ACM Transactions on Accessible Computing (TACCESS).

**2024** ACM/IEEE HRI Pioneers, ACM DIS, ACM CUI.

## Invited Talks

**2024** AI-driven Interventions for Older Adults | Drug Safety and Fall Prevention Task Force, Emory University, Atlanta.

**2024** Doctoral Consortium | Summit on Responsible Computing, AI and Society (RCAIS), Georgia Tech, Atlanta.

**2024** LLMs for older adults | GT OMSCS 8001: LLMs.

**2024** Conversational AI for Older Adults | Robotic Caregiving and Human Interaction Lab (RCHI), CMU, Pittsburgh.

**2024** Explainable AI in data-rich environments | ACM CHI Human-Centered Explainable AI Workshop, Hawaii.

**2023** Alumni in Research Panel | MS-HCI, Georgia Tech, Atlanta.

**2020** Pivoting Mid-Process during User Research | World Information Architecture (IA) Day, Atlanta.

## Student Mentoring

**2024 - present** Sangha (Ellie) Park | M.S. Human-Computer Interaction (Georgia Tech)

<b>2021-2023</b>	Josey Benandi   M.S. Human-Computer Interaction (PM in the U.S. Digital Corps)
<b>2021-2023</b>	Lukas Schmid   M.S. Human-Computer Interaction (UX Researcher at Microsoft)
<b>2021-2022</b>	Jiachen Li   M.S. Digital Media (PhD student at Northeastern University)
<b>2021-2022</b>	Taylor Scavo   M.S. Human-Computer Interaction (UX Researcher at State Farm)