

Niharika Mathur

Human-Centered Computing (HCC) PhD Candidate,
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Research Interests: Human-Centered AI/Explainable AI; Conversational AI Design; Health Informatics;
Human-Centered Design, Ubiquitous Computing; Aging and Accessibility.

EDUCATION

2021 - present	Georgia Institute of Technology (Georgia Tech) Ph.D. Candidate, Human-Centered Computing (HCC) Advisors: Elizabeth Mynatt and Sonia Chernova Thesis: <i>Designing Human-Centered Explanations of LLM-Based AI Systems for Aging-in-Place</i> Thesis Committee: Thomas Ploetz, Mark Riedl, James Landay, Jodi Forlizzi
2019 - 2021	Georgia Institute of Technology (Georgia Tech) M.S., Human-Computer Interaction (HCI) Thesis Advisor: Elizabeth Mynatt
2015 - 2019	Vellore Institute of Technology B.Tech., Computer Science and Engineering

AWARDS AND RECOGNITION

2025	Foley Scholar Award Winner (\$5,000) (Highest departmental award for research excellence in computing at Georgia Tech) Best Poster Award ACM GROUP'25 Conference Special Recognition for Outstanding Reviews (for 5 full papers) ACM CHI'25
2024	Top 10 selected papers ACM CHI'24 Human-Centered Explainable AI Workshop (HCXAI)
2022	Best Paper Award #1 paper at ACM ASSETS'22 (acceptance rate: 27%) Innovation in Health Systems Fellowship (\$3,750) George Family Foundation ACM SIGACCESS Award (\$1,100) Funding Support for Conference Travel to Athens, Greece GVU Travel Award (\$500) School of Interactive Computing, Georgia Tech
2017	Competitive Communicator (CC) and Competitive Leader (CL) Award Toastmasters International (TMI)
2015 - 2019	Dean's Undergraduate Academic Scholarship VIT Vellore, India

PUBLICATIONS

Peer-Reviewed and Under-Review Papers

- [C12] **Niharika Mathur**, Hasibur Rehman, Smit Desai. Assessing the Effect of Explanatory Personas in LLM-Based Conversational AI Agents for Assistive Support in Everyday Well-Being. *[In preparation]*.
- [C11] **Niharika Mathur**, Tamara Zubatiy, Agata Rozga, Jodi Forlizzi, Elizabeth Mynatt. "Sometimes You Need Facts, and Sometimes a Hug": Understanding Older Adults' Preferences for Explanations in LLM-Based Conversational AI Systems. *[Under Review at CHI'26]*.
- [C10] Josey Benandi*, **Niharika Mathur***, Sangha Park, Tracy Mitzner, Agata Rozga, Elizabeth Mynatt. "The Only Thing Certain About This is Uncertainty": Exploring Technology-Mediated Care Coordination Practices Among Older Adults with Mild Cognitive Impairment. *[Under Review at CSCW'26]*.
- [C9] **Niharika Mathur**, Tamara Zubatiy, Agata Rozga, Elizabeth Mynatt. "It feels like hard work trying to talk to it": Understanding Experiences of Encountering and Repairing Conversational Breakdowns with Voice-Based AI Systems. *[Under Review at the ACM Transactions on Accessible Computing (TACCESS'26)]*.
- [C8] **Niharika Mathur**, Tamara Zubatiy, Elizabeth Mynatt. A Research Through Design Study on AI Explanations for Collaborative Everyday Tasks. *ACM International Conference on Supporting Group Work (GROUP'25 Companion)*.
 **Best Poster Award at ACM GROUP'25**
- [C7] **Niharika Mathur**, Alisha Pradhan, Elizabeth Mynatt, Masatomo Kobayashi, John Vines, Katie Seaborn, Erin Buehler, Agata Rozga, Jenny Waycott, John Rudnik, Tamara Zubatiy. Technology-Mediated Caregiving For Older Adults Aging in Place. *ACM Conference on Human Factors in Computing Systems Extended Abstracts (CHI'25)*.
- [C6] Zhenrui Liao, **Niharika Mathur**, Vidur Joshi, Shailendra Joshi. The Promise of Artificial Intelligence in Neuroanesthesia: An Update. *Journal of Neuroanaesthesiology and Critical Care'24*.
- [C5] **Niharika Mathur**, Tamara Zubatiy, Agata Rozga, Elizabeth Mynatt. "Why did you say that?": Recommendations for Understanding Explainability in Conversational AI Systems for Older Adults with MCI. *International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI'23)*.
- [C4] Tamara Zubatiy*, **Niharika Mathur***, Larry Heck, Kayci Vickers, Agata Rozga, Elizabeth Mynatt. "I don't know how to help with that" - Learning from Limitations of Modern Conversational Agent Systems. *ACM Conference On Computer-Supported Cooperative Work and Social Computing (CSCW'23)*.
- [C3] Tamara Zubatiy, Kayci Vickers, Jessica Saurman, Felicia Goldstein, Amy Rodriguez, **Niharika Mathur**, Elizabeth Mynatt. A Distributed Cognition Approach to Understanding Compensatory Calendaring Cognitive Systems of Older Adults with MCI and Their Care Partners. *International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI'23)*.
- [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). *ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'22)*.
 **Best Paper Award at ACM ASSETS'22**
- [C1] Tamara Zubatiy, **Niharika Mathur**, Kayci L. Vickers, Elizabeth Mynatt. Empowering Dyads of Older Adults with MCI and their Care Partners Using Conversational AI Agents. *ACM Conference on Human Factors in Computing Systems (CHI'21)*.

Invited 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*.

Workshops Organized

[W2] **Niharika Mathur**, Alisha Pradhan, Elizabeth Mynatt, Masatomo Kobayashi, John Vines, Katie Seaborn, Erin Buehler, Agata Rozga, Jenny Waycott, John Rudnik, Tamara Zubatiy. [Technology-Mediated Caregiving for Older Adults Aging in Place](#). At *ACM Conference on Human Factors in Computing Systems (CHI'25)*.

[W1] Abigale Stangl, **Niharika Mathur**, Yasmine Belghith. [Workshop on Design for Tactile and Embodied Learning](#). At *the School of Design, Georgia Tech 2025*.

Workshop Papers and Doctoral Consortium

[A2] **Niharika Mathur** and Elizabeth Mynatt. [Categorizing Sources of Information for Explanations in Conversational AI Systems in the Home for Older Adults Aging in Place](#). *Workshop on Human-Centered Explainable AI (HCXAI) at ACM Conference on Human Factors in Computing Systems (CHI'24)*.

Top 10 selected papers for presentation at the 4th HCXAI Workshop at CHI'24.

[A1] **Niharika Mathur**. [Designing Human-Centered Explanations in LLM-based Conversational AI Systems for Aging-in-Place](#). *Doctoral Consortium at the Summit on Responsible Computing, AI and Society (RCAIS'24)*.

Selected as part of the 20-student cohort for the inaugural Responsible AI Summit'24.

Articles, writings, and panels

[H1] **Niharika Mathur**. [A Primer on Conducting User Research with Older Adults](#). **Medium** (Georgia Tech HCI). 2020

RESEARCH AND WORK EXPERIENCE

2021 - present	Georgia Tech, NSF AI CARING Institute (also part of Tech-AI Hub) <i>Graduate Research Assistant (GRA)</i> , advised by <i>Dr. Elizabeth Mynatt</i> and <i>Dr. Sonia Chernova</i> Conducting research on the design of human-centered explanations in LLM-AI systems.
Summer 2020	Georgia Tech, Office of Information Technology (OIT) <i>User Experience Research Intern</i> , mentored by <i>David Lacy</i> 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 freshmen students. The website gathered 543 visits in the first week.
Fall 2019	Georgia Tech, Animal-Computer Interaction Lab <i>Graduate Research Assistant (GRA)</i> , advised by <i>Dr. Melody Moore-Jackson</i> 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 canine behavior to build suitable adoption profiles for shelter animals.
Summer 2018	Tika Data Services <i>User Research Intern</i> Implemented a privacy-by-design framework to design prototypes for a machine learning data 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 data annotation tools.

Summer 2017

The Upside Story

Design Research Intern

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.

GRANT WRITING EXPERIENCE

2021 - 2026

National Science Foundation (NSF)

Title: AI Institute for Collaborative Assistance and Responsive Interaction for Networked Groups (AI CARING)

Role: Contributed to the collaborative effort of ideation and writing the grant

Award no.: 2112633; *Amount awarded:* \$20,000,000 (over five years)

PI and Institute Director: Dr. Sonia Chernova; *Co-PI:* Dr. Elizabeth Mynatt, Dr. Reid Simmons

TEACHING EXPERIENCE

Graduate Teaching Assistant (GTA) | Georgia Tech

Fall 2023

Course: Explainable AI (41 students; Instructor: Dr. Sonia Chernova)

Spring 2022

Course: Digital Health Equity (38 students; Instructor: Dr. Andrea G. Parker)

Spring 2021

Course: Human-Computer Interaction (51 students; Instructor: Dr. Elizabeth Mynatt)

Spring 2020

Course: Human-Computer Interaction (69 students; Instructor: Dr. Elizabeth Mynatt)

ACADEMIC SERVICE AND LEADERSHIP ROLES

Leadership Roles

2026

CHI Workshop Juror

ACM Conference on Human Factors in Computing Systems (CHI'26)

2025

Program Committee (Associate Chair - Posters Track)

ACM Conference on Computer Supported Cooperative Work (CSCW'25)

Lead Workshop Organizer

CHI'25 in Yokohama, Japan

Workshop Co-Organizer

Design for Tactile and Embodied Learning, School of Design, Georgia Tech

Graduate Student Advisory Council (GSAC) Member

College of Computing, Georgia Tech

2021 - 2024

Student Council Member

NSF AI Institute (AI CARING)

2023

Co-Chair, Graduate Student Council (GSC)

School of Interactive Computing, Georgia Tech

Accessibility Team Student Volunteer Lead

	ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'23)
2022	Student Volunteer (SV) ACM Conference on Human Factors in Computing Systems (CHI'22)
2018	Area Director Toastmasters International (TMI), VIT Vellore, India
2017	Team Lead for Guest Management and Hospitality India Emerge Youth Summit (IEYS), VIT, Vellore
2017 - 2019	Magazine Editor Students for the Exploration and Development of Space (SEDS-VIT), India

Invited Peer Reviewer

2026	ACM CHI Workshops ACM/IEEE Human-Robot Interaction (HRI) Conference
2023 - 2026	ACM Conference on Human Factors in Computing Systems (CHI)* * 5 total <i>Special Recognitions for Outstanding Reviews at CHI</i>
2023 - 2026	ACM Conference on Computer Supported Cooperative Work (CSCW)
2025	ACM Transactions on Computing for Healthcare (HEALTH) ACM Conference on Computer Supported Cooperative Work (CSCW) posters Elsevier Computers in Human Behavior Journal ACM User Interface Software and Technology (UIST) Springer Personal and Ubiquitous Computing (PAUC) ACM CHI Late Breaking Work (LBW)
2024	ACM Transactions on Accessible Computing (TACCESS) ACM/IEEE HRI Pioneers ACM Designing Interactive Systems (DIS) Conference ACM Conversational User Interfaces (CUI) Conference

INVITED TALKS AND LECTURES

2025	Designing Human-Centered Explanations of LLM-Based Conversational AI Systems Center for Behavioral Intervention Technologies (CBITs), Northwestern University, Illinois. <i>Host: Dr. Maia Jacobs</i> Department of Computational Media, University of California, Santa Cruz (UCSC). <i>Host: Dr. Christina Chung</i> Graduate Workshop, Summit for NSF-AI Institutes Leadership (SAIL'25), Virginia. Human-Computer Interaction Consortium (HCIC), Wisconsin.
	Longitudinal Field Deployments of AI-driven Systems AI CARING Student Symposium Panel, Atlanta.
2024	AI-driven Interventions for Older Adults Drug Safety and Fall Prevention Task Force, Emory University, Atlanta, USA. <i>Host: Jill Woodard</i>

Doctoral Consortium

Summit on Responsible Computing, AI and Society (RCAIS'24), Georgia Tech, Atlanta, USA.

Guest Lecture GT OMSCS 8001: LLMs for older adults

Host: Rachel Lowy

Conversational AI Design in Collaborative Caregiving Settings

Robotic Caregiving and Human Interaction Lab (RCHI), CMU, Pittsburgh, USA.

Host: Dr. Zachory Erickson

Building Context into AI Explanations

ACM CHI'24 Human-Centered Explainable AI (HCXAI) Workshop, Hawaii, USA.

2023

Understanding Explainability in Conversational AI Systems for Caregiving

Conference on Ubiquitous Computing and Ambient Intelligence (UCAml'23), Cancun, Mexico.

Alumni in Research Panel

MS-HCI, Georgia Tech, Atlanta, USA.

2022

MATCHA: A Conversational AI Assistant for Medication Management in Older Adults

ACM SIGACCESS (ASSETS'22), Athens, Greece. **Awarded Best Paper.**

2020

Pivoting Mid-Process during User Research

World Information Architecture (IA) Day, Atlanta, USA.

MEDIA

2025

Foley Scholars 2025 Award Winner

[[Georgia Tech Research](#), [Tech AI Hub](#), [NSF AI CARING](#), [GT Holiday Newsletter](#)]

AI CARING Researchers Win Best Poster Award at ACM GROUP 2025

[[Tech AI Hub](#)]

Technology-Mediated Caregiving Workshop at CHI

[[IBM Research](#), [Khoury College](#), [Georgia Tech](#), [NJIT](#)]

SKILLS

Research Methods and Skills

Human-Centered Design, Qualitative Research Study Design and Analysis, User Interviews, Usability Studies, Survey Design, Contextual Inquiry, Think-Aloud Studies, In-Home Field Deployments, Wizard-of-Oz Studies, Design Research Methods for AI, Research Through Design, Participatory and Co-Design, Statistical Analysis.

Languages, Design tools, Libraries, and Technologies

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

Selected Coursework

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

STUDENT MENTORSHIP

* indicates mentees who co-authored a publication

2025 - present

Natalie Jarrett

MS-HCI (Georgia Tech)

Ellie Heo

MS-HCI (Georgia Tech)

Hasibur Rahman*

Design and Media PhD Student (Northeastern University) [C12]

2023 - 2025

Sangha (Ellie) Park*

MS-HCI (Georgia Tech) [C10]

2021 - 2023

Josey Benandi*

MS-HCI (Georgia Tech) (now PM in the U.S. Digital Corps) [C10]

Lukas Schmid

MS-HCI (Georgia Tech) (now UX Researcher at Microsoft)

2021 - 2022

Jiachen Li*

MS-DM (Georgia Tech) (now CS PhD student at Northeastern University) [C2]

REFERENCES

(1) Dr. Elizabeth Mynatt

Dean and Professor,

Khoury College of Computer Sciences, Northeastern University.

Professor Emeritus, Georgia Tech.

e.mynatt@northeastern.edu

(2) Dr. Jodi Forlizzi

Professor in Computer Science and HCII,

School of Computer Science, Carnegie Mellon University.

forlizzi@cs.cmu.edu

(3) Dr. Sonia Chernova

Associate Professor,

School of Interactive Computing, Georgia Tech.

chernova@gatech.edu

(4) Dr. Thomas Ploetz

Professor and Associate Chair of Graduate Studies,

School of Interactive Computing, Georgia Tech.

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