Niharika Mathur

Human-Centered Computing (HCC) Ph.D. Candidate, Georgia Tech, Atlanta, USA.
nmathur35@gatech.edu | niharikamathur.com | Google Scholar

Research Areas: Human-Centered AI/Explainable AI; Conversational AI Design; Health Informatics; 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: Designing Human-Centered Explanations of LLM-Based AI Systems for Aging in Place 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 (CSE) Thesis Advisor: Ilanthenral Kandasamy

AWARDS AND RECOGNITIONS

2025	**Foley Scholar Award Winner ($5,000)** (Highest departmental award for research excellence in computing at Georgia Tech) **Best Poster Award** ACM GROUP 2025 Conference **Special Recognition for Outstanding Reviews (for 3 full papers)** ACM CHI 2025
2024	**Top 10 selected papers** ACM CHI 2024 Human-Centered Explainable AI Workshop (HCXAI)
2022	**Best Paper Award** #1 paper at ACM ASSETS 2022 (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)

PUBLICATIONS

Peer-Reviewed and Under-Review Papers

[C12] <u>**Niharika Mathur**</u>, 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. *ACM Conference on Human Factors in Computing Systems* **(CHI 2026)**

[C11] <u>**Niharika Mathur**</u>, Hasibur Rehman, Smit Desai. "Who wants to be nagged by AI?": Investigating the Effects of Agreeableness on Perceptions of Conversational AI Explanations for Everyday Well-Being. *Under Review at ACM Conference on Human Factors in Computing Systems Extended Abstracts* **(CHI 2026)**

[C10] Josey Benandi*, <u>**Niharika Mathur***</u>, 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 *ACM Conference On Computer-Supported Cooperative Work and Social Computing* **(CSCW 2026)**

[C9] <u>**Niharika Mathur**</u>, 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 2026)**

[C8] <u>**Niharika Mathur**</u>, Tamara Zubatiy, Elizabeth Mynatt. A Research Through Design Study on AI Explanations for Collaborative Everyday Tasks. *ACM International Conference on Supporting Group Work* **(GROUP 2025)**
🏆 **Best Poster Award at ACM GROUP 2025**

[C7] <u>**Niharika Mathur,**</u> 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 2025)**

[C6] Zhenrui Liao, <u>**Niharika Mathur**</u>, Vidur Joshi, Shailendra Joshi. The Promise of Artificial Intelligence in Neuroanesthesia: An Update. *Journal of Neuroanaesthesiology and Critical Care 2024*

[C5] <u>**Niharika Mathur**</u>, 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 2023)**

[C4] Tamara Zubatiy*, <u>**Niharika Mathur***</u>, 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 2023)**

[C3] Tamara Zubatiy, Kayci Vickers, Jessica Saurman, Felicia Goldstein, Amy Rodriguez, <u>**Niharika Mathur**</u>, 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 2023)**

[C2] <u>**Niharika Mathur**</u>, 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 2022)** 🏆 **Best Paper Award at ACM ASSETS 2022**

[C1]   Tamara Zubatiy, **<u>Niharika Mathur</u>,** 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 2021)**

Invited Book Chapters

[B1]   Ilanthenral Kandasamy, WB Vasantha, **<u>Niharika Mathur</u>**, 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]   Technology-Mediated Caregiving for Older Adults Aging in Place. **<u>Niharika Mathur</u>,** Alisha Pradhan, Elizabeth Mynatt, Masatomo Kobayashi, John Vines, Katie Seaborn, Erin Buehler, Agata Rozga, Jenny Waycott, John Rudnik, Tamara Zubatiy at **ACM CHI 2025**

[W1]   Workshop on Design for Tactile and Embodied Learning. Abigale Stangl, **<u>Niharika Mathur</u>**, Yasmine Belghith at the **School of Design, Georgia Tech 2025**

Workshop Papers and Doctoral Consortium

[A2]   **<u>Niharika Mathur</u>** 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 2024)** **Top 10 selected papers for presentation at the 4th HCXAI Workshop at CHI 2024.**

[A1]   **<u>Niharika Mathur</u>**. 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 2024)** **Selected as part of the 20-student cohort for the inaugural Responsible AI Summit'24.**

Articles, writings, and panels

[H1]   **<u>Niharika Mathur</u>.** A Primer on Conducting User Research with Older Adults. **Medium (GT HCI)** 2020

RESEARCH AND WORK EXPERIENCE

2021 - present	**Georgia Tech, NSF AI CARING Institute (also part of Tech-AI Hub)** *Graduate Research Assistant (GRA),* advised by Dr. Elizabeth Mynatt and Dr. Sonia Chernova Conducting research on the design of human-centered explanations in LLM-AI systems.
Summer 2020	**Georgia Tech, Office of Information Technology (OIT)** *User Experience Research Intern,* mentored by David Lacy Conducted user research (interviews and surveys) with 36 freshmen students and designed the 2020 "Welcome Home to Georgia Tech" website. Conducted usability evaluations on the website with 17 freshmen students. Website gathered 543 visits in the first week.
Fall 2019	**Georgia Tech, Animal-Computer Interaction Lab** *Graduate Research Assistant (GRA)*, 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 canine behavior to build suitable adoption profiles for shelter animals.

Summer 2018	**Tika Data Services** *User Research Intern* 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.

INVITED TALKS

2026	**Center for Behavioral Intervention Technologies (CBITs), Northwestern University.** *Host: Dr. Maia Jacobs*
2025	**Department of Computational Media, University of California, Santa Cruz (UCSC).** *Host: Dr. Christina Chung* **Graduate Workshop, Summit for NSF-AI Institutes Leadership (SAIL'25), Virginia.** **Human-Computer Interaction Consortium (HCIC), Wisconsin.**
2024	**Drug Safety and Fall Prevention Task Force, Emory University, Atlanta, USA.** *Host: Jill Woodard* **Summit on Responsible Computing, AI and Society (RCAIS), Georgia Tech, Atlanta, USA.** **Guest Lecture GT OMSCS 8001: LLMs for older adults** *Host: Rachel Lowy* **Robotic Caregiving and Human Interaction Lab (RCHI), CMU, Pittsburgh, USA.** *Host: Dr. Zachory Erickson* **ACM CHI'24 Human-Centered Explainable AI (HCXAI) Workshop, Hawaii, USA.**
2023	**Ubiquitous Computing and Ambient Intelligence (UCAml), Cancun, Mexico.**
2022	**ACM SIGACCESS (ASSETS), Athens, Greece.**

ACADEMIC SERVICE AND LEADERSHIP ROLES

Leadership Roles

2026	**Program Committee (Associate Chair - Posters Track)** ACM Conference on Human Factors in Computing Systems (CHI'26) **CHI Workshop Juror** ACM Conference on Human Factors in Computing Systems (CHI'26) **ASSETS Future PC Workshop** ACM ASSETS'26 Future Program Committee Workshop Member

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
	ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'23)
2022	**Student Volunteer (SV)**
	ACM Conference on Human Factors in Computing Systems (CHI'22)

Invited Peer Reviewer

2026	ACM CHI Posters (Program Committee Member)
	ACM CHI Workshops
	ACM/IEEE Human-Robot Interaction (HRI) Conference
2023 - 2026	ACM Conference on Human Factors in Computing Systems (CHI)*
	*5 total **Special Recognitions for Outstanding Reviews** at CHI*
	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

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)

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

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 and Analysis, User Interviews, Usability Studies, Survey Design, Contextual Inquiry, Think-Aloud Studies, 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, 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) **[C11]**

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.
thomas.ploetz@gatech.edu