Niharika Mathur

Human-Centered Computing (HCC) PhD Student,
Georgia Tech, Atlanta, USA.
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Research Interests: Human-Centered AI; Human-Centered Explainable AI (HCXAI); Technology design for Aging and Accessibility; Design Research in AI; Participatory Design methods

Education

Georgia Institute of Technology (Georgia Tech) — **2021 - present**
P.h.D in **Human-Centered Computing** (HCC) — Atlanta, Georgia, US.
Advisors: *Dr. Elizabeth Mynatt* and *Dr. Sonia Chernova*

Georgia Institute of Technology (Georgia Tech) — **2019 - 2021**
M.S. in Human-Computer Interaction (HCI) — Atlanta, Georgia, US.
Advisor: *Dr. Elizabeth Mynatt*

Vellore Institute of Technology — **2015 - 2019**
B.Tech. in Computer Science and Engineering (CSE) — Vellore, India.

Publications

Peer-reviewed Conference Publications

[C6] **Niharika Mathur**, Tamara Zubatiy, Elizabeth D. Mynatt. A Research Through Design Study on AI Explanations for Collaborative Everyday Tasks for Older Adults Aging in Place. *In Extended Abstracts of ACM International Conference on Supporting Group Work (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, 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.*

[C3] 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.*

[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)

[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.*

Workshops

[W1] 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

[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 2023.*
(Contributed to writing on patient data for AI inputs)

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, School of Interactive Computing **2021 - present**
Graduate Researcher in the Everyday Computing Lab advised by Dr. Elizabeth Mynatt
Conducting research on the use of Conversational AI technologies by older adults with early-stage dementia and caregivers.

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.

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.

Awards and Recognition

2024 **Top 10 Selected Papers** | ACM CHI HCXAI Workshop
2023 **Special Recognition for Outstanding Review** | ACM CHI 2023
2022 **Innovation in Health Systems Fellowship** | George Family Foundation
2022 **Best Paper Award** | ACM ASSETS
2022 **Travel Scholarship** | ACM Award
2020 **GVU Travel Award** | Georgia Tech

Teaching Experience

Graduate Teaching Assistant (GTA)
2023 Course: Explainable AI | Instructor: Dr. Sonia Chernova
2022 Course: Digital Health Equity | Instructor: Dr. Andrea G. Parker
2021, 2020 Course: Human-Computer Interaction | Instructor: Dr. Elizabeth Mynatt

Service

Leadership

2024 - **Chair** | Graduate Student Council for the School of Interactive Computing, Georgia Tech
2023-2024 **Academic Chair** | Graduate Student Council for the School of Interactive Computing, Georgia Tech
2023 **Student Representative** | HCC PhD Qualifying Exam Reworking Committee, Georgia Tech
2021-2024 **Member (Student Council)** | NSF AI Institute (AI-CARING)
2023 **Accessibility Volunteer Lead** | ACM ASSETS 2023
2022 **Student Volunteer (SV)** | ACM CHI 2022

Reviewer

2024 ACM Transactions on Accessible Computing (TACCESS)
2024 ACM CSCW, ACM/IEEE HRI Pioneers, ACM DIS, ACM CUI
2023-2025 ACM CHI

Invited Talks

2024 LLMs for older adults | GT OMSCS 8001: LLMs
2024 Conversational AI for Older Adults | Robotic Caregiving and Human Interaction Lab (RCHI), CMU, Pittsburgh, PA.
2024 Explainable AI for Older Adults Aging in Place | ACM CHI Human-Centered Explainable AI
2020 Pivoting Mid-Process during User Research | World Information Architecture (IA) Day, Atlanta, GA.

Student Mentoring

2024 - present Sangha Park | M.S. Human-Computer Interaction (Georgia Tech)
2021-2023 Josey Benandi | M.S. Human-Computer Interaction (Georgia Tech; now PM in the U.S. Digital Corps)
2021-2022 Jiachen Li | M.S. Digital Media (Georgia Tech; now PhD student at Northeastern University)