

Niharika Mathur

Human-Centered Computing PhD, Georgia Tech

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Education

Georgia Institute of Technology

Atlanta, Georgia, USA.

Ph.D. Human-Centered Computing

Advisor: **Dr. Elizabeth Mynatt**

August 2021 - May 2025 (expected)

Georgia Institute of Technology

Atlanta, Georgia, USA.

M.S. Human-Computer Interaction, 3.92/4

Specialization: *Interactive Computing*

August 2019 - May 2021

Vellore Institute of Technology

Vellore, India.

B.Tech. Computer Science and Engineering, 8.9/10

July 2015 - May 2019

Experience

Graduate Research Assistant | Georgia Tech

Atlanta, Georgia, USA.

Researcher in the **Everyday Computing Lab** investigating the differences in design of interactive **AI agents** in the domestic spaces as a result of varying dynamics in family structures. Part of an **NSF** Grant.

January 2020 - Present

UX Intern | Georgia Tech Office of Information Technology

Remote Internship.

Implemented research analysis on multiple official Georgia Tech websites.

Conducted user research with incoming freshmen and designed the Week of Welcome website for new incoming undergraduate Fall 2020 students. The website gathered **543** visits in the first week.

May 2020 - July 2020

UX Research Intern | Tika Data Services

Bangalore, India.

Implemented design research concepts to design wireframes for an internal machine learning annotation tool and tested outcome efficiency using Monte Carlo Simulation.

Conducted user research with community partners in remote parts of India and developed actionable **design recommendations** based on user feedback.

May 2018 - July 2018

Skills

Research

Interviews
Focus Groups
Participatory Design
Survey Design
Literature Review
Contextual Inquiry
Heuristic Evaluation
Affinity Mapping
Task Analysis

Competitive Analysis
Inferential Statistics
Usability and User Testing
Research through Design

Design

Sketching
Wireframing
Adobe XD
Adobe InDesign
Figma
Miro
Mural

Languages

HTML
CSS
PHP
Java
Python
C
C++
R Studio

Research Projects

Conversational AI Assistants for Medication Management for Older Adults with Mild Cognitive Impairment (MCI) and Their Care-partners

August 2020 - present

Collaboration with Emory University Hospital Brain Health Center, Atlanta, Georgia.

Conducted user research with dyads of older adults with MCI through remote focus groups, interviews and co-design sessions to understand their medication practices and expectations from a Conversational AI Assistant (Google Home Hub).

Designed an interactive "check-in" based Google Action for medication management and deployed it for 6 dyads in a period of 20 weeks divided into 2 phases and evaluated usage through interaction log analysis and semi-structured interviews to inform design revisions. Analyzed **844** interactions and the design revision led to a **272%** increase in the engagement rate with the action.

Project Peach (Previously RADx-UP) | NIH-funded Research

August 2020 - present

Collaboration with Emory University and Morehouse School of Medicine, Atlanta, Georgia.

Conducting user journey interviews with community partners at Federally Qualified Health Centers in Georgia to improve COVID-19 testing experience for people with or at-risk of Diabetes.

Designed an evaluation survey for the testing journey and a user journey map for expert evaluation for COVID-19 testing process starting from information seeking to accessing test results.

Redesign of Jamba Juice Mobile App | Focus Brands

August 2019 - December 2019

Project supported by Focus Brands, Atlanta, Georgia.

Conducted research using a triangulated approach by combining competitive analysis, semi-structured interviews and surveys to understand current user experiences and identify pain points leading to high cart abandonment on the Jamba mobile app.

The project led to a **53%** increase on the System Usability Scale (SUS) from the existing design.

Publications

1. **Niharika Mathur**, Kunal Dhodapkar, Tamara Zubatiy, Jiachen Li, Brian Jones, Elizabeth D. Mynatt. A Collaborative Approach to Support Medication Management in Older Adults with Mild Cognitive Impairment Using Conversational Assistants. *(Under review)*
2. Tamara Zubatiy, Kayci L. Vickers, **Niharika Mathur**, Elizabeth D. Mynatt. Empowering Dyads of Older Adults With Mild Cognitive Impairment And Their Care Partners Using Conversational Agents. *In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, pp. 1-15. 2021.
3. **(Book Chapter)** Ilanthenral Kandasamy, Vasantha W.B., **Niharika Mathur**, Mayank Bisht, Florentine Smarandache. Sentiment analysis of the #MeToo movement using neutrosophy: Application of single-valued neutrosophic sets. *In Optimization Theory Based on Neutrosophic and Plithogenic Sets*, pp. 117-135. Academic Press, 2020..

Awards

George Family Foundation Fellowship | Innovation in Health Systems

Academic Year 2022

Teaching Experience

Graduate Teaching Assistant | Georgia Tech

Human-Computer Interaction (CS6750) | Dr. Elizabeth Mynatt

Spring 2020

Human-Computer Interaction (CS6750) | Dr. Elizabeth Mynatt

Spring 2021

Digital Health Equity (CS8803) | Dr. Andrea Parker

Spring 2022