

# 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** and **Dr. Andrea Parker**

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

## Publications

1. **[Best Paper Award] Niharika Mathur**, Kunal Dhodapkar, Tamara Zubatiy, Jiachen Li, Brian D. Jones, and Elizabeth D. Mynatt. A Collaborative Approach to Support Medication Management in Older Adults with Mild Cognitive Impairment Using Conversational Assistants (CAs). In *The 24th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22)*, pp. 1-14. 2022.
2. Tamara Zubatiy, Kayci L. Vikers, **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. 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

Best Paper | ASSETS 2022 | Athens, Greece.

October 2022

George Family Foundation Fellowship | Innovation in Health Systems.

Academic Year 2022

## Teaching Experience

### Graduate Teaching Assistant | Georgia Tech

Digital Health Equity (CS8803) | Dr. Andrea Parker

Spring 2022

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

Spring 2020

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

Spring 2021

## Research Experience

### Graduate Research Assistant | Georgia Tech

Atlanta, Georgia, USA.

January 2020 - Present

Researcher in the **Everyday Computing Lab** investigating the design of conversational **AI agents** for older adults with Mild Cognitive Impairment. Part of an **NSF Grant**.

## UX Intern | Georgia Tech Office of Information Technology

May 2020 - July 2020

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.

## UX Research Intern | Tika Data Services

May 2018 - July 2018

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.

## 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.

## 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