Szeyi (Reina) Chan

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RESEARCH INTERESTS

My research focuses on human-centered AI, developing assistive technologies for older adults that provide adaptive support, balanced proactivity, and transparent design to enhance trust by making system actions explainable and understandable.

EDUCATION

Northeastern University   Boston, MA
Ph.D. in Computer Science | Advisor: Prof. Zhi Tan   May 2025 – Present

Northeastern University   Boston, MA
M.S in Computer Science   Sept. 2021 – Dec. 2024

University of Massachusetts Amherst   Amherst, MA
B.S. in Resource Economic   Sept. 2013 – May 2017

HONORS, AWARDS & GRANTS

Northeastern University Khoury Distinguished Fellowship	2025 – 2026
Northeastern University NSF-Funded Research Apprenticeship (DREAM) ($ 12,000)	2023
Northeastern University Khoury Research Apprenticeship ($ 6,700)	Sept. 2022 – Dec. 2022
Northeastern University Grace Hopper Celebration Scholarship	Sept. 2022
Northeastern University Facebook Align Scholarship ($ 12,500)	2021
University of Massachusetts Amherst Dean List	2014 – 2015

PUBLICATION (* denotes equal contribution)

Under Submission

[U1] Human and LLM-Based Voice Assistant Interaction: An Analytical Framework for User Verbal and Nonverbal Behaviors
Szeyi Chan, Shihan Fu, Jiachen Li, Bingsheng Yao, Smit Desai, Mirjana Prpa, and Dakuo Wang
ACM TOCHI

Peer-Reviewed Conference Papers

[C3] Insights from Designing Context-Aware Meal Preparation Assistance for Older Adults with Mild Cognitive Impairment (MCI) and Their Care Partners
Szeyi Chan*, Jiachen Li*, Siman Ao, Yufei Wang, Ibrahim Bilau, Brian Jones, Eunhwa Yang, Elizabeth D. Mynatt and Xiang Zhi Tan
ACM DIS 2025 (To appear)

[C2] "Mango Mango, How to Let The Lettuce Dry Without A Spinner?": Exploring User Perceptions of Using An LLM-Based Conversational Assistant Toward Cooking Partner
Szeyi Chan*, Jiachen Li*, Bingsheng Yao, Amama Mahmood, Chien-Ming Huang, Holly Jimison, Elizabeth D. Mynatt, and Dakuo Wang
CSCW 2025 (To appear)

[C1] Assessing Empathy Across Game Fidelity Levels: A Case Study of 3D and Text-Based Versions of Brukel
Szeyi Chan, James Cox, Ala Ebrahimi and Bob De Schutter
DiGRA 2025 (To appear)

Peer-Reviewed Conference Short Papers

[S4] Cardistry: Exploring a GPT Model Workflow as an Adapted Method of Gaminiscing
Brandon Lyman, James Cox, Ala Ebrahimi, **Szeyi Chan**, Christopher Barney and Bob De Schutter
ACM Foundations of Digital Games 2024

[S3] Brukel vs Brukel: Impact of Game Fidelity on Player Experience In Gaminiscing Games
Szeyi Chan, James Cox, Ala Ebrahimi, Brandon Lyman and Bob De Schutter
IEEE Conference on Games 2023

[S2] Catch The Butterfly: Using Gaminiscing to Design a Serious Game about Immigrants
Ala Ebrahimi, Brandon Lyman, James Cox, **Szeyi Chan** and Bob De Schutter
IEEE Conference on Games 2023

[S1] Catch The Butterfly: A Gaminiscing Game about Immigration
Ala Ebrahimi, Brandon Lyman, James Cox, **Szeyi Chan** and Bob De Schutter
IEEE Conference on Games 2023 (Demo)

RESEARCH EXPERIENCE

Graduate Student Research Assistant, Northeastern University　　　　　　　Sept. 2024 – Present
People And Robot Collaborative Systems Lab - Advisor: Prof. Zhi Tan

- Assisted and authored a research project on a context-aware meal preparation reminder system for older adults with Mild Cognitive Impairment (MCI).
- Analyzed qualitative data from user studies with 8 participants, including interview transcript coding and behavioral observations, to evaluate the user experience and effectiveness of context-aware, urgency-based reminders.

Summer Research Program Intern, MIT Lincoln Laboratory　　　　　　　Jun. 2024 – Sept. 2024
AI Technology Group - Mentors: Dr. Rohan Paleja, Dr. Ho Chit Siu

- Assisted in Chief Digital and Artificial Intelligence Office-funded research projects focused on exploring human-AI teaming, aligning machine predictions with human mental models.
- Developed a human-AI interaction experiment platform, leveraging explainable AI and interpretability techniques to improve collaboration and understanding between humans and AI systems.

Research Apprentice, Northeastern University　　　　　　　Jan. 2024 – Aug. 2024
NSF-Funded Program (DREAM) - Mentor: Prof. Mirjana Prpa, Prof. Dakuo Wang

- Developed an analytical framework for assessing user verbal and nonverbal behaviors to optimize human and LLM based voice assistant interactions in research and practice, resulting in a first-authored journal paper submitted to TOCHI.

Graduate Student Research Assistant, Northeastern University　　　　　　　Apr. 2023 – Aug. 2024
Human-Centered AI Lab - Advisor: Prof. Dakuo Wang

- Led a research project exploring user experiences with an LLM-based voice assistant in a cooking scenario.
- Designed and implemented *Mango Mango*, an LLM-based system with Alexa Echo for voice-assisted cooking.
- Conducted user study and interview with 12 participants, analyzing results using quantitative and qualitative methods, including transcript coding and statistical analysis, to evaluate user feedback and implications for an LLM-based conversational agent, resulting in a first-authored paper submitted to CSCW '25.

Khoury Research Apprentice, Northeastern University Sept. 2022 – Dec. 2024
Designed for Aging Gamers Studio - Advisor: Prof. Bob De Schutter

- Led research projects examining the impact of audiovisual fidelity on player experience and empathy within the game Brukle to uncover how different fidelity levels affect emotional engagement and user immersion.
- Designed and led a user study with 42 participants, using statistical analysis to evaluate pre- and post-game questionnaires, resulting in key insights and a first-authored paper published in IEEE CoG '23.
- Contributed to game design, aligning mechanics and audiovisual elements with research goals to enhance study outcomes, resulting in co-authored papers in IEEE CoG '23 and FDG '24.

WORK EXPERIENCE

Software Engineer Intern Jun. 2023 – Aug. 2023
Kohl's - Remote

- Assisted in migrating Kohl's App customer profile section from a hybrid to a native Android version.
- Utilized MVVM architecture with Kotlin and Jetpack Compose for optimal performance and maintainability.
- Contributed to app design and architecture discussions in Figma, focusing on creating a user-centered interface for an enhanced mobile app experience.

Software Development Co-op Jan. 2023 – May 2023
MIT Lincoln Laboratory - Lexington, MA

- Developed a C++ application to visualize post-mission raw data as images for data analysis and interpretation.
- Upgraded a GUI application with new functionalities in C++ to enhance existing system performance.
- Collaborated with the team to conduct testing, ensuring the functionality and reliability of the system.

Category Manager, Category Leadership Associate Jul. 2017 – Sept. 2021
Advantage Solutions - Harrisburg, PA

- Optimized product performance across 32 categories by analyzing reviews, pricing, buyer conversion, demographics, and trends for US East Central clients.
- Built retailer and manufacturer relationships, translating complex data into actionable strategies and presentations for clients and leadership.
- Led training for the US Northeast sales team on insight-driven storytelling, enhancing client engagement.
- Secured six new product distributions without delisting existing items, driving brand market share growth.

TEACHING EXPERIENCE

Service-Learning Teaching Assistant | NEU CS7170 Human-Centered AI Sept. 2023 – Dec. 2023
Teaching Assistant | Res-Econ 102 Introduction to Resource Economics Jan. 2017 – May. 2017

MEDIA COVERAGE

- "The researcher's apprentice: master's students showcase innovative projects" Mar. 2023
  Khoury News

ACADEMIC REVIEW ACTIVITIES

IMWUT 2025, CUI WiP 2025, CHI LBW 2025, CSCW 2025, IEEE CoG 2023

OUTREACH

Khoury Faculty Selection Subcommittee Student Volunteer, Northeastern University   Sept. 2022 – Dec. 2022
Member of Rewriting the Code, Graduate Women Coders, Women in Tech   Sept. 2021 – Present

SKILLS

Languages

Python, Java, C++, C, JavaScript, HTML, CSS, Kotlin, R

Technologies

React, Express, Bootstrap, Node, Android SDK, Jetpack Compose, MySQL, MongoDB, Figma, PyTorch

Research Skills

Data Analysis, User Research, User Experience Design, User Interface Design, Prototyping, Usability Testing, User Persona and Scenario, Storyboard, Storytelling, Journey Map