Szeyi (Reina) Chan

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Research Interest

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

Education

Northeastern University Sept. 2021 – Dec. 2024
Master of Science in Computer Science (GPA: 3.85 / 4.00) *Boston, MA*

University of Massachusetts Amherst Sept. 2013 – May 2017
Bachelor of Science in Resource Economics (GPA: 3.34/4.0) *Amherst, MA*

Publication

Under Submission

- **Szeyi Chan***, Jiachen Li*, Siman Ao, Yufei Wang, Ibrahim Bilau, Brian Jones, Eunhwa Yang, Elizabeth D Mynatt and Xiang Zhi Tan. 2025. ***Insights from Designing Context-Aware Meal Preparation Assistance for Older Adults with Mild Cognitive Impairment (MCI) and Their Care Partners*** (Submitted to DIS 2025)
- **Szeyi Chan**, Shihan Fu, Jiachen Li, Bingsheng Yao, Smit Desai, Mirjana Prpa, and Dakuo Wang. 2024. ***Human and LLM-Based Voice Assistant Interaction: An Analytical Framework for User Verbal and Nonverbal Behaviors.*** (Submitted to ACM TOCHI)

Peer-Reviewed Conference Papers

- **Szeyi Chan***, Jiachen Li*, Bingsheng Yao, Amama Mahmood, Chien-Ming Huang, Holly Jimison, Elizabeth D. Mynatt, and Dakuo Wang. ***"Mango Mango, How to Let The Lettuce Dry Without A Spinner?": Exploring User Perceptions of Using An LLM-Based Conversational Assistant Toward Cooking Partner.*** (CSCW 2025)
- **Szeyi Chan**, James Cox, Ala Ebrahimi and Bob De Schutter. ***Assessing Empathy Across Game Fidelity Levels: A Case Study of 3D and Text-Based Versions of Brukel*** (DiGRA 2025)

Peer-Reviewed Conference Short Papers

- Brandon Lyman, James Cox, Ala Ebrahimi, **Szeyi Chan**, Christopher Barney and Bob De Schutter. ***Cardistry: Exploring a GPT Model Workflow as an Adapted Method of Gaminiscing.*** (ACM Foundations of Digital Games 2024)
- **Szeyi Chan**, James Cox, Ala Ebrahimi, Brandon Lyman and Bob De Schutter. ***Brukel vs Brukel: Impact of Game Fidelity on Player Experience In Gaminiscing Games.*** (IEEE Conference on Games 2023)
- Ala Ebrahimi, Brandon Lyman, James Cox, **Szeyi Chan** and Bob De Schutter. ***Catch The Butterfly: Using Gaminiscing to Design a Serious Game about Immigrants.*** (IEEE Conference on Games 2023)
- Ala Ebrahimi, Brandon Lyman, James Cox, **Szeyi Chan** and Bob De Schutter. ***Catch The Butterfly: A Gaminiscing Game about Immigration.*** Demo. (IEEE Conference on Games 2023)

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.
- 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.

NSF-Funded Program (DREAM) Research Apprentice, Northeastern University Jan. 2024 – Aug. 2024

Human-Centered AI Lab - Advisor: 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 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 – Present

Storytelling Through Experimental Gameplay Lab - 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 overall 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

Kohl's Jun. 2023 – Aug. 2023

Software Engineer Intern *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.

MIT Lincoln Laboratory Jan. 2023 – May 2023

Software Development Co-op *Lexington, MA*

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

Advantage Solutions Jul. 2017 – Sept. 2021

Category Manager, Category Leadership Associate *Harrisburg, PA*

- Built relationships with retailers and manufacturers to optimize product performance using data-driven strategies.
- Conducted analyses on product reviews, pricing, buyer conversion rates, shopper demographics, and category trends, recommending optimized product assortments across 32 categories for US East Central clients.
- Delivered data-driven presentations, turning complex data into actionable insights for clients and senior leadership.
- Designed and led training sessions for the US Northeast sales team on developing and delivering insight-driven presentations, improving the effectiveness of client interactions.
- Drove brand market share growth by securing 6 additional product distributions without removing any existing items.

Honors, Awards & Grants

Northeastern University NSF-Funded Research Apprenticeship (DREAM) ($ 12,000)	2023
Northeastern University Khoury Research Apprentieship ($ 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

Teaching

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

Service

Reviewer: IEEE CoG 2023, CSCW 2025, CHI LBW 2025

Outreach

Khoury News: The researcher's apprentice: master's students showcase innovative projects — Mar. 2023
Khoury Faculty Selection Subcommittee Student Volunteer, NEU — 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
Libraries: Sklearn, Numpy, Pandas, Scipy
Relevant Coursework: Human-Computer Interaction, Object-Oriented Design, Computer Systems, Algorithms, Foundations of AI, Machine Learning, Web Development, Computer Vision
Research Skills: Data Analysis, User Research, User Experience Design, User Interface Design, Prototyping, Usability Testing, User Persona and Scenario, Storyboard, Storytelling, Journey Map