Seraphina Yong

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RESEARCH STATEMENT

I am interested in designing tools to support thoughtful social interactions and healthy interpersonal relationships, in a fast-paced era where we are losing the space to reflect on our social experiences, achieve mutual understanding, and maintain valuable relationships. Within HCI, my research integrates principles of human perception, activity theory, and the multimodal and spatiotemporal characteristics of technology to understand, build, and evaluate systems that naturally facilitate conscious reflection upon social interactions. This can enhance people's ability to actively engage in challenging but relationally-productive behaviors, such as becoming closer, addressing conflicts, or resolving misunderstandings. I design transformative social experiences that benefit emotional well-being using both emerging and established technologies, and mixed- and qualitative research methods.

RESEARCH INTERESTS

Human-Computer Interaction
Social Reflection, Behavior Change, and Well-Being
Embodied Computing and Multimodal Interaction
Perception and Cognition

EDUCATION

Ph.D. Candidate, Department of Computer Science,
University of Minnesota (Minneapolis, MN) — 2021- current
Lab: GroupLens Research & Illusioneering Lab
Advisors: Lana Yarosh, Evan Suma Rosenberg

M.S., Department of Computer Science,
National Tsing Hua University (Hsinchu, Taiwan) — 2017-2019

B.S., Department of Computer Science,
University of Chicago (Chicago, IL) — 2012-2016

WORK EXPERIENCE

GroupLens Lab and Illusioneering Lab,
University of Minnesota, MN 2021-
Graduate Researcher
Primary Investigators: Lana Yarosh, Evan Suma Rosenberg
Projects: Designing virtual and interoceptive systems to support the development of behavioral skills for interpersonal relationship management via embodied learning of others' experiences; Developing a sociotechnical model of the process of online relationship development

OMRON SINIC X and The University of Tokyo,
Tokyo, Japan 2024.05-2024.08
Research Intern
Primary Investigators: Shigeo Yoshida, Chi-Lan Yang, Atsushi Hashimoto, Hideaki Kuzuoka
Projects: Designing and evaluating linguistically-stylized AI-generated conversation digests as poems to support reflective confrontation of communication failures in personal relationships

NTU IoX Center Research Institute,
National Taiwan University, Taiwan 2019-2021
Research Assistant
Primary Investigator: Robin Bing-Yu Chen
Projects: Enhancing recall of social emotional memory with thermal-augmented media; Developing collaborative health management methods for depressed older adults

Media and Interactives, Department of Exhibits,
Field Museum of Natural History, IL 2016-2017
Digital Interactives Producer
Projects: Designing, building, evaluating tangible interfaces for education on science topics

PUBLICATIONS

Refereed Conference Full Papers

Seraphina Yong, Chi-Lan Yang, Atsushi Hashimoto, Hideaki Kuzuoka, Shigeo Yoshida. Poet-Arbiter: Reflecting on Communication Failure in Personal Relationships With Stylized AI-Generated Conversation Digests. *Submitted to* the ACM Conference on Computer Supported Cooperative Work (CSCW 2025)

Seraphina Yong, Ashlee Milton, Evan Suma Rosenberg, Stevie Chancellor, Svetlana Yarosh. "I'm Petting the Laptop, Which Has You Inside It": Reflecting on Lived Experiences of Online Friendship. *Submitted to* the ACM Conference on Computer Supported Cooperative Work (CSCW 2025)

Seraphina Yong, Leo Cui, Evan Suma Rosenberg, Svetlana Yarosh. A Change of Scenery: Transformative Insights from Retrospective VR Embodied Perspective-Taking of Conflict with a Close Other. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI 2024)

Seraphina Yong, Min-Wei Hung, Chien-Wen Yuan, Chih-Chiang Chiu, Ming-Chyi Huang, Chuang-Wen You. Mind and Body: The Complex Role of Social Resources in Understanding and Managing Depression in Older Adults. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work* (CSCW 2023)

Ruei-Che Chang*, Seraphina Yong*, Fang-Ying Liao, Chih-An Tsao, Bing-Yu Chen. Understanding (Non-)Visual Needs for the Design of Laser-Cut Models. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI 2023)
*Both authors contributed equally to this work.

Jerald Thomas Jr., Seraphina Yong, Evan Suma Rosenberg. Inverse Kinematics Assistance for the Creation of Redirected Walking Paths. *In Proceedings of the IEEE/ACM Symposium on Mixed and Augmented Reality* (ISMAR 2022)

Ruei-Che Chang, Chih-An Tsao, Fang-Ying Liao, Seraphina Yong, Tom Yeh, and Bing-Yu Chen. Daedalus in the Dark: Designing for Non-Visual Accessible Construction of Laser-Cut Architecture. *In Proceedings of the ACM Symposium on User Interface Software & Technology* (UIST 2021)

Chiu-Hsuan Wang, Seraphina Yong, Hsin-Yu Chen, Yuan-Syun Ye, Liwei Chan. HMD Light: Sharing In-VR Experience via Head-Mounted Projector for Asymmetric Interaction. *In Proceedings of the ACM Symposium on User Interface Software & Technology* (UIST 2020)

Chiu-Hsuan Wang, Chia-En Tsai, Seraphina Yong, Liwei Chan. Slice of Light : Transparent and Integrative Transition Among Realities in a Multi-HMD User Environment. *In Proceedings of the ACM Symposium on User Interface Software & Technology* (UIST 2020)

Workshops and Posters

Seraphina Yong. Designing Agency-Preserving Reflection Systems to Support Reappraisal of Social Biases. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing Companion, Workshop: Understanding and Mitigating Cognitive Biases in Human-AI Collaboration* (CSCW 2023)

Seraphina Yong, Min-Wei Hung, Chien Wen (Tina) Yuan, Chih-Chiang Chiu, Ming-Chyi Huang, Chuang-Wen You. Attitudes Toward Health and Communication in Depressed Older Adults. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing Companion* (CSCW 2020)

Seraphina Yong, Yuan-Chi Tseng, Hao-Chuan Wang. AuralTrace: Pitch-Based Sonified Referencing to Support Reception of Virtual Spatial Communication. *Taiwan Computer Human Interaction Conference* (TAICHI 2019) [Best Paper Award]

Seraphina Yong, Hao-Chuan Wang. Using Spatialized Audio to Improve Human Spatial Knowledge Acquisition in Virtual Reality. *In Proceedings of the 23rd International Conference on Intelligent User Interfaces Companion* (IUI 2018)

Chen-Wei Huang, Pornlada Ittipornpithak, Ko-Ren Chang, Seraphina Yong.
NBrain: Customizable Messaging Support for Cross-Lingual Brainstorming. *Taiwan Computer Human Interaction Workshop Demo* (TAICHI 2016)

Kuan-Yu Lin, Seraphina Yong, Shuo-Ping Wang, Chien-Tung Lai, Hao-Chuan Wang.
HandVis: Visualized Gesture Support for Remote Cross-Lingual Communication. *In Proceedings of ACM Conference on Human Factors in Computing Systems, Extended Abstract* (CHI 2016)

PROJECTS

Improving Other-Oriented Understanding and Communication Through Virtually-Embodied Experience Swapping, 2021—current
Current VR systems and interoceptive technologies enhance feelings of empathy for others and self-regulation. Our work on VR other-embodiment in a situated context revealed that such experiences *also* stimulate higher-order cognitive functions such as qualitative learning of others' perspectives and communication change. To expand on this area, we develop an instrument to measure detailed social behavioral impacts of virtual embodiment experiences and design perception-informed interoceptive displays to synchronize the internal emotional experience of the target and user.

Introducing Friction to Interpretation via Linguistically-Stylized AI Generated Conversation Digests to Support Reflection on Communication Failure, May 2024 — August 2024
Generative AI can provide valuable support to interpersonal interactions as additional social agents and providers of advice, especially during challenging moments when people may be afraid of speaking to one another. However, ethical issues such as overreliance threaten users' perceived authenticity of their relationships, especially for personally-significant ones. We design and evaluate a generative AI chatbot which creates linguistically-stylized conversational summaries as *poems* to support difficult social conversations while introducing friction to encourage more critical discourse.

Understanding Non-Visual Needs for Laser-Cut Architecture Design, April 2021— Sept 2021
Laser-cutting is a convenient and promising prototyping method, but laser-cut models include an extra step of assembly which is a barrier to blind and visually-impaired (BVI) users. We conduct a mixed-methods study with both sighted and BVI users to compare their use of laser-cut model affordances and provide implications to support general sensory accessibility in laser-cut design.

Designing Collaborative Health Management for Depressed Older Adults, 2020 — 2021
Depressed older adults struggle with a complex interplay of mental and bodily symptoms that hinder treatment and need collaborative support from their social circles for health sensemaking and management. Through in-depth interviews to identify depressed older adults' health and social perceptions, we contribute targeted designs for collaborative solutions to support recovery.

AWARDS AND GRANTS

Empathy and Theory of Mind in Virtual Reality: Advancing Methods and Systems
National Science Foundation (NSF) Small Grant | Human-Centered Computing (HCC)
Role: Lead Author under PI Lana Yarosh
Amount requested: $600,000
Status: Submitted, May 2024

ARCS and 3M Scholar 2022-2024

Three-Year Graduate Fellowship, College of Science and Engineering
University of Minnesota 2021-2024

TAICHI 2019 Best Paper Award
AuralTrace: Pitch-Based Sonified Referencing to Support Reception of Virtual Spatial Communication

International Student Scholarship, National Tsing Hua University 2017-2018

Dean's List, University of Chicago 2012-2016

OTHER EXPERIENCE

Blog writer for ACM UIST on Medium (read it here)

ACM CHI reviewer 2020, 2021, 2022, 2023, 2024

ACM CSCW reviewer 2020, 2021, 2022, 2023, 2024

IEEE VR reviewer 2024

CSCW Asia Winter School 2019, 2020
Attendee and presenter

CSCW Asia Winter School 2019
Attendee and presenter

PROFESSIONAL SKILLS

Programming: OpenAI | Python | Discord | C# | C++ | R | JavaScript | HTML&CSS

Software: Unity | HTC Vive | Oculus | SteamVR | OpenVR | Blender | Git | JMP | SPSS

Languages: English (Native), Mandarin Chinese (Fluent)