

Ziming Li

Ph.D. Candidate in Computing and Information Sciences - HCI and Accessibility
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Education

Ph.D. in Computing and Information Sciences

Rochester Institute of Technology (RIT), August 2021 - May 2026 [Expected]
Dissertation Proposal: Large Language Model-Driven Agents in Virtual Reality for Inclusive Communication Training
Supervised by Dr. Roshan Peiris

M.S. in Human Computer Interaction

Rochester Institute of Technology (RIT), August 2018 - December 2020
GPA: 3.91/4.00
Supervised by Dr. Roshan Peiris

B.E. in Network Engineering

Guangdong University of Technology (GDUT), September 2014 - June 2018

Peer-Reviewed Publication

Conference Paper

1. **Ziming Li**, Pinaki Prasanna Babar, and Roshan L Peiris. 2025. Generative Role-Play Communication Training in Virtual Reality for Autistic Individuals: A Study on Job Coach Experiences in Vocational Training Programs. CHI '25. Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3706598.3713507>
2. **Ziming Li**, Huadong Zhang, Chao Peng, and Roshan L. Peiris. 2025. Exploring Large Language Model-Driven Agents for Environment-Aware Spatial Interactions and Conversations in Virtual Reality Role-Play Scenarios. 2025 IEEE Conference Virtual Reality and 3D User Interfaces (VR), Saint Malo, France, 2025, pp. 1-11. <https://doi.org/10.1109/VR59515.2025.00025>
3. Pratheep Kumar Chelladurai, **Ziming Li**, Maximilian Weber, Tae Oh, and Roshan L Peiris. 2024. SoundHapticVR: Head-Based Spatial Haptic Feedback for Accessible Sounds in Virtual Reality for Deaf and Hard of Hearing Users. In Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '24). Association for Computing Machinery, New York, NY, USA, Article 31, 1–17. <https://doi.org/10.1145/3663548.3675639>
4. Palavi V. Bhole, **Ziming Li**, Shivang Bokolia, Tae Oh, Garreth W. Tigwell, and Roshan L Peiris. 2024. Haptic2FA: Haptics-Based Accessible Two-Factor Authentication for Blind and Low Vision People. Proc. ACM Hum.-Comput. Interact. 8, MHCI, Article 264 (September 2024), 20 pages. <https://doi.org/10.1145/3676509>
5. Yiwen Wang, **Ziming Li**, Pratheep Kumar Chelladurai, Wendy Dannels, Tae Oh, and Roshan L Peiris. 2023. Haptic-Captioning: Using Audio-Haptic Interfaces to Enhance Speaker Indication in Real-Time Captions for Deaf and Hard-of-Hearing Viewers. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, USA, Article 781, 1–14. <https://doi.org/10.1145/3544548.3581076>

6. **Ziming Li**, Shannon Connell, Wendy Dannels, and Roshan Peiris. 2022. SoundVizVR: Sound Indicators for Accessible Sounds in Virtual Reality for Deaf or Hard-of-Hearing Users. In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22). Association for Computing Machinery, New York, NY, USA, Article 5, 1–13. <https://doi.org/10.1145/3517428.3544817>

Journal Paper

1. **Ziming Li** and Roshan L Peiris. 2024. Exploring the SoundVizVR Plugin in the Development of Sound-Accessible Virtual Reality Games: Insights from Game Developers and Players. ACM Trans. Access. Comput. 17, 4, Article 18 (December 2024), 20 pages. <https://doi.org/10.1145/3698882>
2. **Ziming Li**, and Roshan L Peiris. 2020. RotateEntry: Controller-rolling-style Text Entry for Three Degrees of Freedom Virtual Reality Devices. Frameless: Vol. 3: Iss. 1, Article 21. <https://repository.rit.edu/frameless/vol3/iss1/21>

Extended Abstract

1. Hannah La, **Ziming Li**, Ha-Kyung Kong, and Roshan L Peiris. 2025. Exploring the Efficacy of a Chatbot Training Application in Alleviating Graduate Students' Public-Speaking Anxiety During Q&A. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25). Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3706599.3720177>
2. Marie Lee, **Ziming Li**, Wendy Dannels, Tae Oh, and Roshan L Peiris. 2025. Exploring One Handed Signing During Driving for Interacting with In-vehicle Systems for Deaf and Hard of Hearing Drivers. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25). Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3706599.3719868>
3. **Ziming Li**, Pinaki Prasanna Babar, Mike Barry, and Roshan L Peiris. 2024. Exploring the Use of Large Language Model-Driven Chatbots in Virtual Reality to Train Autistic Individuals in Job Communication Skills. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24). Association for Computing Machinery, New York, NY, USA, Article 156, 1–7. <https://doi.org/10.1145/3613905.3651996>
4. **Ziming Li**, Kristen Shinohara, and Roshan L Peiris. 2023. Exploring the Use of the SoundVizVR Plugin with Game Developers in the Development of Sound-Accessible Virtual Reality Games. In Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23). Association for Computing Machinery, New York, NY, USA, Article 130, 1–7. <https://doi.org/10.1145/3544549.3585750>

Presentation

1. Paper Presentation, "Generative Role-Play Communication Training in Virtual Reality for Autistic Individuals: A Study on Job Coach Experiences in Vocational Training Program," CHI'25, Yokohama, Japan, *in-person*, April 28, 2025
2. Poster Presentation, "Exploring the Use of Large Language Model-Driven Chatbots in Virtual Reality to Train Autistic Individuals in Job Communication Skills," CHI'24, *virtual*, May 13, 2024
3. Poster Presentation, "Exploring the Use of the SoundVizVR Plugin with Game Developers in the Development of Sound-Accessible Virtual Reality Game," CHI'23, *virtual*, April 24, 2023
4. Refereed Symposium Presentation, "VR Sound Mapping: Make Sound Accessible for DHH People in Virtual Reality Environments," 6th Annual Frameless XR Symposium, Rochester, USA, *in-person*, November 18, 2021
5. Refereed Symposium Presentation, "RotateEntry: Controller-rolling-style Text Entry for 3 Degrees of Freedom Virtual Reality Devices," 5th Annual Frameless XR Symposium, *virtual*, November 20, 2020

Exhibition and Demo

1. "Generative AI-based VR Interactive Customer Service Training," Fram Signature Events, Rochester, NY, USA, September 29 - 30, 2025
2. "Interactive Environment-Aware LLM-Driven VR Agent," 9th Annual Frameless XR Symposium XR Showcase, Rochester, NY, USA, November 15, 2024
3. "Enhancing STEM Learning with VR and AI Integration: A Study on Engagement and Comprehension in Astronomy Education," Rochester Museum & Science Center Eclipse Festival, Rochester, NY, USA, April 6 - 8, 2024
4. "ChatGPT-Powered VR Chatbot for Job-Related Communication Skills Training," 8th Annual Frameless XR Symposium XR Showcase, Rochester, NY, USA, November 17, 2023
5. "Sound Indicators for Accessible Sounds in Virtual Reality," Imagine RIT, Rochester, NY, USA, April 27, 2023
6. "VR Sound Mapping: Make Sound Accessible for DHH People in Virtual Reality Environments," 6th Annual Frameless XR Symposium, Rochester, USA, November 19, 2021

Invited Talk and Teaching

1. Invited Talk, CISC-896: GCCIS PhD Colloquium Series, "Exploring Large Language Model-Driven Avatars in Virtual Reality for Inclusive Communication Training," Rochester Institute of Technology, September 26, 2025
2. Guest lecture, ISTE-266: Design For Accessibility, "SoundVizVR: Sound Indicators for Accessible Sounds in Virtual Reality for Deaf or Hard of Hearing Users," Rochester Institute of Technology, March 10, 2023
3. Guest lecture, IGME-209: Data Structures & Algorithms for Games & Simulations I, "Stack, Queue, Tree, and Graph," Rochester Institute of Technology, February 16, 2023

Mentoring

- MS Capstone and Thesis Mentor, Rochester Institute of Technology
 - Hannah La (MS HCI, 2024), Capstone: Exploring the Efficacy of a Chatbot Training Application in Alleviating Graduate Students' Public-Speaking Anxiety During Q&A [paper accepted for CHI EA'25]
 - Marie Lee (MS HCI, 2024), Thesis: Exploring One-Handed Signing During Driving for Interacting with In-vehicle Systems for Deaf and Hard of Hearing Drivers [paper accepted for CHI EA'25]
 - Vaidehi Kushare (MS HCI, 2024), Capstone: Exploring Generative Non-Verbal Communication with Large Language Model Agents
- Research Assistant Mentor, RIT Accessible and Immersive Realities (AIR) Lab
 - Dhaval Mahajan (Graduate RA, 2024 to present), Topic: Job-Related Communication Assistants for People with Intellectual and Developmental Disabilities Through Augmented Reality
 - Jeffrey Spang (Undergraduate RA, 2024 to 2025), Topic: Second Language Learning Through Large Language Model-Driven Avatars
 - Pinaki Babar (Graduate RA, 2023 to 2025), Topic: Job-Related Soft Skills Training for People with Intellectual and Developmental Disabilities Through Virtual Reality [papers accepted for CHI EA'24 and CHI'25]
 - Palavi Vinodh Bhole (Graduate RA, 2022 to 2023), Topic: Haptic2FA: Haptics-Based Accessible Two-Factor Authentication for Blind and Low Vision People [paper accepted for MobileHCI]

Teaching Assistantships

Teaching Assistant, HCIN-600: Research Methods, Rochester Institute of Technology, Fall 2025

- Assisted the instructor in preparing class discussion materials
- Monitored online discussions on myCourses across weekly modules
- Graded assignments and provided feedback to students

Reviewing Experience

1. CHI 2025, Reviewer

- Papers: reviewed 2 submissions, received 2 Special Recognitions
- Late-Breaking Work: reviewed 3 submissions, received 1 Special Recognition

2. CHI 2024, Reviewer

- Papers: reviewed 1 submission

3. CHI 2023, Reviewer

- Late-Breaking Work: reviewed 1 submission

Professional Experience

Graduate Research Assistant

Rochester Institute of Technology, Rochester, NY [April 2021 – Present]

- Designed and developed over 10 VR HMD prototype applications using Unity and Node.js to support experimental design and research hypotheses in human-computer interaction (HCI) and accessibility.
- Conducted over 100 user studies, collecting and analyzing quantitative and qualitative data to evaluate performance, usability, and user experience.

Researcher & Developer Lead

Heritage Christian Services, Rochester, NY [May 2023 – Present]

- Developed an LLM-driven VR chatbot with over 180 training sessions to help autistic individuals practice job-related communication skills through role-play interactions.
- Designed and built a web-based platform enabling job coaches to create and manage role-play scenarios via LLM prompts, integrated seamlessly with the VR chatbot system.
- Conducted usability and user experience evaluations with 30+ job coaches and trainees with intellectual and developmental disabilities at non-profit job training organizations.

UX Researcher

LiveLike, Rochester, NY [January 2019 – April 2019]

- Led contextual inquiry, heuristic evaluation, and usability testing for an interactive live-streaming platform, conducting user studies with 8 participants.
- Collaborated with a team of 4 UX researchers to synthesize research findings and present usability improvement recommendations to LiveLike stakeholders.

Scholarships and Awards

- **RIT Outstanding Graduate Student Award**, Rochester Institute of Technology, 2025. ***Sole Recipient, Ph.D. Category***
- **Academic Progress Scholarship**, Guangdong University of Technology (GDUT), 2017.
- **Excellent Student Scholarship (Third Class)**, GDUT, 2017.
- **“Red Cross Star” Award**, GDUT, 2015. *Outstanding Committee Leader, Top 25%*

Technical Skills

- **Programming:** C# (Unity), JavaScript (Vue.js, Svelte.js, Node.js), Java (Android), C++, C, Python
- **VR & Game Development:** Unity, Oculus Integration, Meta Avatars SDK
- **Database & Backend:** MongoDB, Node.js, Express.js
- **AI & LLM:** LLM API (GPT, Claude, Gemini), Speech-to-Text (Meta VoiceSDK, OpenAI Whisper), Text-to-Speech (OpenAI, Wit.ai)
- **Research Tools:** Qualtrics, JASP