YIQI LIANG

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EDUCATION

The Hong Kong University of Science and Technology *Guangzhou, China*

MPhil in Computational Media and Arts, Information Hub *Sep. 2023 - Jul. 2025*

- *Supervised by Prof. Mingming Fan (Primary) and Prof. Yuyu Luo (Co)*

Northeastern University *Hebei, China*

B.Eng in Computer Science and Technology *Sep. 2018 - Jul. 2022*

- GPA: 89.4/100 (Ranking Top 7.8%)

RESEARCH INTEREST

Generative AI, Computer Graphics, Computer Vision, Image-based Rendering, Human-Computer Interaction, Human-AI collaboration, Assistive Technology, etc.

PUBLICATIONS AND MANUSCRIPTS

[1] Junxian Chen*, Ying Liu*, **Yiqi Liang**, Dandan Long and Ruihui Li. SD-Net: Spatially-Disentangled Point Cloud Completion Network. *Proceedings of the 31th ACM International Conference on Multimedia (ACM MM). 2023.* **Accepted**

[2] Qianjie Wei*, Xiaoying Wei, **Yiqi Liang**, Nuonan Si and Mingming Fan. RemoteChess: Enhancing Older Adults' Social Connectedness via Designing a Virtual Reality Chinese Chess (Xiangqi) Community. *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI). 2025.* **Accepted**

[3] **Yiqi Liang***, Ying Liu, Dandan Long and Ruihui Li. MROSS: Multi-Round Region-based Optimization for Scene Sketching. *IEEE International Conference on Multimedia and Expo (ICME). 2025.* **Accepted**

[4] **Yiqi Liang***, Ying Liu, Dandan Long and Ruihui Li. PortraVec: Image-Based Portrait Vectorization with Text-Guided Manipulation. *(Anonymous Conference.) 2025.* **Submitted**

[5]] Fan Lin*, **Yiqi Liang**, Qianjie Wei, Mingshuo Li, Chutian Jiang and Mingming Fan. VR-Shuttlecock: Exploring the Possibility of Virtual Reality (VR) Shuttlecock Kicking with Multi-Sensory Feedback for Empowering Older Adults in Balance Training. *(Anonymous Conference.) 2025.* **Submitted**

ON-GOING WORKS

- **Yiqi Liang**, Fan Lin, Qianjie Wei, Mingming Fan, Yuyu Luo. Drawing-Led Emotional Expression and Memory Recall: An Immersive Experience with Virtual Reality. **In Progress**
- **Yiqi Liang**, Mingming Fan, Yuyu Luo. Leveraging Generative Artificial Intelligence for Customized Nostalgic Photos. **In Progress**
- Fan Lin, **Yiqi Liang**, Qianjie Wei, Mingming Fan. Help older adults with balance training through kicking shuttlecock in VR with haptic feedback. **In Progress**

SELECTED PROJECTS

Research Student *Sep. 2023 - present*

Accessible & Pervasive User EXperience (APEX) Group, HKUSTGZ, Supervised by Prof. Mingming Fan

•Human-AI Collabration

◦ Drawing-Led Emotional Expression and Memory Recall: An Immersive Experience with Virtual Reality

- Designed and developed a virtual drawing-assisted storytelling system for older adults. By integrating AIGC and natural language processing in a 3D environment, the system supports emotional expression and memory recall, overcoming physical, skill-based, and 2D paper limitations.

•Generative AI

◦ Leveraging Generative Artificial Intelligence for Customized Nostalgic Photos

- Developed a system that leverages generative AI to create customized nostalgic photos for older adults. The project aims to incorporate AI to generate user-customized visual images through an interactive process, helping them recall and retain memories in a personalized way.

•Assistive Technology

◦ From Scenarios to Strategies: A Systematic Framework for Understanding Spatial Information Needs of Blind and Low Vision people

- Investigated prior works and practices regarding the spatial information needs of blind and low vision (BLV) individuals in specific scenarios, such as navigation.
- Designed a framework to systematically capture the spatial information needs of BLV people, aims to reveal neglected spatial information needs, identify new research directions, and guide design improvements of assistive tools.

◦ LayerTouch: Layer-Based Image Exploration for Blind and Low Vision Users

- Designed and developed LayerTouch, an accessible image exploration tool that enables blind and low vision (BLV) users to interact with layered visual content on touchscreens. The tool allows users to navigate image objects by depth, providing structured access to foreground and background elements, enhancing image understanding and grants users a stronger sense of agency.

◦ Assisting Medication Information Leaflets Reading for Older Adults: Current Challenges and the Explorations of MediSUM

- Investigated the practices and challenges faced by Chinese older adults in reading medication leaflets.
- Designed and implemented a WeChat Mini Program with AI-assisted functions to assist older adults in reading and understanding medication leaflets, improving medication safety.

Research Assistant *Sep. 2022 - Aug. 2023*

ShapeLab, Hunan University, Supervised by Prof. Ruihui Li

•Image-based Rendering

◦ Adcanced Stylized Vector Graphics Synthesis

- Developed a system for advanced stylized vector graphics synthesis based on untrained optimization. The project focuses on producing customizable vector illustrations with diverse artistic styles, enabling applications in digital art, design, and creative content generation.

AWARDS & HONORS

Postgraduate Studentship (PGS) Full Scholarship of HKUST(GZ)	*2023-2025*
2018/2019/2020/2021 Outstanding Student Scholarship of Northeastern University	*2018 - 2022*
Outstanding Graduates Prize of Northeastern University	*2022*
Best Code Award (2/269, 0.74%), HUAWEI Cloud BlockChain College Competition	*2021*
First prize (5%), The 14th Hebei Province Programming Contest	*2021*

SKILLS & LANGUAGES

Languages Proficiency: Mandarin (Native), English (Fluent, IELTS 6.5)

Programming Languages: Python, C++, C, C#, SQL, JavaScript, p5.js, HTML/CSS,

Technologies & Tools: Image Generation (Diffusion, GANs), 3D-aware representations (e.g. Gaussian distribution maps, NeRF), Large Language Models (GPT, BERT, LLaMA), VR/AR/XR.

Open-source Hardware and Programming: Arduino IDE, OpenMV

Others: Skilled in Figma, Adobe kits Adobe Kit (Photoshop, Illustrator)