YIQI LIANG

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EDUCATION

The Hong Kong University of Science and Technology *Guangzhou*

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

• *Supervised by Prof. Mingming Fan and Prof. Yuyu Luo*

Northeastern University *Hebei*

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

• GPA: 89.4/100 (top 7.8%)

RESEARCH INTEREST

Computer Graphics, 2D/3D Generation, Human-Computer Interaction, Assistive Technology

PUBLICATIONS

• 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**

• **Yiqi Liang***, Ying Liu, Dandan Long and Ruihui Li. "MROSS: Multi-Round Region-based Optimization for Scene Sketching." *Proceedings of the AAAI Conference on Artificial Intelligencel Conference on Multimedia (AAAI). 2024.* **Accepted but Withdraw**

• **Yiqi Liang***, Fan Lin, Nuonan Si, Qianjie Wei, Chutian Jiang and Mingming Fan. "From Scenarios to Strategies: A Systematic Framework for Understanding Spatial Information Needs of BLV people." *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI). 2025.* **Submitted**

• **Yiqi Liang***, Nuonan Si, Fan Lin, Yuanyuan Mao and Mingming Fan. "Assisting Medication Information Leaflets Reading for Older Adults: Current Challenges and the Explorations of MediSUM." *Proceedings of the Chinese CHI Conference. (CHCHI). 2025.* **Submitted**

• Fan Lin*,**Yiqi Liang**, Nuonan Si, and Mingming Fan. "'AI Resurrection': Current Perspectives of The Public and Ways Forward." *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI). 2025.* **Submitted**

• 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.* **Submitted**

• **Yiqi Liang***, Ying Liu, Dandan Long and Ruihui Li. "VectorPD: Artistic Portrait Drawing with Vector Strokes." *2022.* **Published**

ACADEMIC EXPERIENCE

•Human-AI Collabration The Hong Kong University of Science and Technology(Guangzhou)

Mphil, *Supervised by Prof. Mingming Fan* *Nov. 2024 - present*

◦ **A Guidance System for Improving the Generation Gap Communication based on Keywords Visualization**

- Designed and developed a web page system that integrates ChatGPT and an AIGC model
- Implemented visualization and discussion of keyword object descriptions
- Explored potential causes of the generation gap between grandparents and grandchildren

•Assistive Technology The Hong Kong University of Science and Technology(Guangzhou)

Mphil, *Supervised by Prof. Mingming Fan* *Sep. 2023 - present*

◦ **From Scenarios to Strategies: A Systematic Framework for Understanding Spatial Information Needs of BLV 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
- Revealed neglected spatial information needs, identified new research directions, and aimed to improve the design of assistive tools

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

- Investigated the practices and challenges older adults faced in the medication leaflets reading process
- Designed and implemented a WeChat Mini Program with user-friendly functions to assist older adults in reading and understanding medication leaflets
- Aimed to improve medication safety through the developed program

•Sketch Generation Hunan University

Research Assistant, *Supervised by Prof. Ruihui Li* *Feb. 2023 - Aug. 2023*

◦ **MROSS: Multi-Round Region-based Optimization for Scene Sketching**

- Designed a method to convert real scene images into vector sketches at different levels of abstraction
- Proposed new stroke initialization methods to ensure scene completeness and optimization convergence
- Developed a novel CLIP-based semantic loss and a VGG-based feature loss to guide multi-round optimization, supported by extensive experimental results demonstrating the method's effectiveness

◦ **VectorPD: Artistic Portrait Drawing with Vector Strokes**

- First to convert a human face image into a vector sketch
- Introduced a novel stroke optimization mechanism that ensure the expressiveness and completeness of portrait sketches at varying levels of abstraction
- Proposed a novel distance loss function (Crop-based Shadow Loss) to enhance the fidelity and visibility of portrait sketches by guiding the orderly merging of shadow elements

•Point Cloud Completion Hunan University

Research Assistant, *Supervised by Prof. Ruihui Li* *Sep. 2022 - Feb. 2023*

◦ **SD-Net: Spatially-Disentangled Point Cloud Completion Network**

- Proposed a novel point cloud completion framework consisting of two sub-networks, Dense Refiner and Missing Generator, which refine partial point clouds and infer missing point clouds respectively
- Presented a data preprocessing algorithm to separate point clouds of missing regions and refined regions
- Participated in data processing and writing

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

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

Languages Proficiency: Chinese (Native speaker), English