Yiqi LIANG

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https://github.com/Yiki77

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Education

The Hong Kong University of Science and Technology(Guangzhou) **Sep. 2023 - Jul. 2025**
MPhil in Information Hub
Supervised by Prof. Mingming Fan and Prof. Yuyu Luo

Northeastern University **Sep. 2018 - Jul. 2022**
B.Eng in Computer Science and Technology
GPA: 89.4/100 (top 7.8%)

Publication

Human-Computer Interaction **Sep. 2023 - Present**

- **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
- 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

Computer Vision **Sep. 2022 - Aug. 2023**

- 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* Accepted
- **Yiqi Liang*,** Ying Liu, Dandan Long, Ruihui Li. MROSS: Multi-Round Region-Based Optimization for Scene Sketching. arXiv preprint arXiv:2410.04072, 2024. Arxiv
- **Yiqi Liang*,** Ying Liu, Dandan Long, Ruihui Li. VectorPD: Artistic Portrait Drawing with Vector Strokes. arXiv preprint arXiv:2410.04182, 2024. Arxiv

Experience

Human-AI Collabration **Nov. 2024 - Present**
Supervised by Prof. Mingming Fan

A Guidance System for Improving 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 **Sep. 2023 - Present**

Supervised by Prof. Mingming Fan

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

- 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

Image Generation **Feb. 2023 - Aug. 2023**

Supervised by Prof. Ruihui Li

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 **Sep. 2022 - Feb. 2023**

Supervised by Prof. Ruihui Li

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

Programming Languages: Python, C++, C, C#, JavaScript, p5.js, HTML
Platforms and Tools: MATLAB, Unity, Arduino
Languages Proficiency: Chinese (Native speaker), English (IELTS - 6.5)