

## CONTACT INFORMATION

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## RESEARCH INTERESTS

**HCI & Visualization**, Spatial Computing, Immersive Analytics, Cross-Reality Interaction  
Visual Analytics, Multimodal Communication

## EDUCATION

**ShanghaiTech University**, Shanghai, China  
Master of Computer Science (MCs)

Sep. 2021 - Jun. 2025 (expected)

Advisor: Quan Li

## ACADEMIC EXPERIENCE

**Hong Kong University of Science and Technology**, HCI Initiative @ HKUST, Hong Kong, China

*Research Intern (Advisor: Xiaojuan Ma)*

Sept. 2024 - Present

**Immersive Analytics of Oceanographic Data**. Designing and implementing immersive analytics system that adopts a scene feature graph, facilitates navigation and narration of analytical routes, and generates meta-summaries of trajectories for analysis and communication for various variables for marine environment in China Sea.

**ShanghaiTech University**, ViSeer Lab, Shanghai, China

*Graduate Research Assistant (Advisor: Quan Li)*

May. 2023 - Present

**Visual Analytics, Hybrid User Interface, Theory/Methodology, AR/VR**. Exploring and leading corresponding research projects with diverse areas to establish a concrete sense of each sub-field.

## PUBLICATIONS

**Yuchen Wu**, Yuansong Xu, Shenghan Gao, Xingbo Wang, Wenkai Song, Zhiheng Nie, Xiaomeng Fan, Quan Li. **LiveRetro: Visual Analytics for Strategic Retrospect in Livestream E-Commerce**. In *IEEE Transactions on Visualization and Computer Graphics (VIS 2023 Conf.)*.  
VIS 2023 · Full Paper

- Proposed *LiveRetro*, an interactive visual analytics system, supporting the retrospective analysis of livestream e-commerce strategies from a multifaceted and empirical perspective.
- Identified design requirements supporting a comprehensive strategic retrospect in livestream e-commerce and informative computational features that facilitate the analysis of live performance.
- Conducted case studies and expert interviews that proved the effectiveness and usability of the system.

**Yuchen Wu**, Shengxin Li, Shizhen Zhang, Xingbo Wang, Quan Li. **Trinity: Synchronizing Verbal, Nonverbal, and Visual Channels to Support Academic Oral Presentation Delivery**. In *Proceedings of International Symposium of Chinese CHI*.

ChineseCHI24 🏆 Best Paper Award (0.6%)

- Proposed *Trinity*, a hybrid delivery support system that provides guidance for multichannel delivery on-the-fly.
- Conducted a controlled between-subject user study to investigate the usability, effectiveness, interaction, influence, trust and collaboration of *Trinity*.

Yang Ouyang, **Yuchen Wu**, He Wang, Chenyang Zhang, Furui Cheng, Chang Jiang, Lixia Jin, Yuanwu Cao, Quan Li. **Leveraging Historical Medical Records as a Proxy via Multimodal Modeling and Visualization to Enrich Medical Diagnostic Learning**. In *IEEE Transactions on Visualization and Computer Graphics*.

VIS 2023 · Full Paper

- Presented DiagnosisAssistant, a visual analytics system that leverages historical medical records as a proxy for multimodal modeling and visualization to enhance the learning experience of interns and novice physicians.
- Shadowed and gain insight into the “mentor-apprentice” processes between experienced physicians and interns/novices.
- Demonstrated the validity and reliability of our approach through two case studies and expert interviews.

He Wang, Yang Ouyang, **Yuchen Wu**, Chang Jiang, Lixia Jin, Yuanwu Cao, Quan Li. *KMTLabeler: An Interactive Knowledge-Assisted Labeling Tool for Medical Text Classification*. In *IEEE Transactions on Visualization and Computer Graphics*.

TVCG 2024

- Introduced a collaborative human-ML teaming workflow, strategically designed to actively engage domain experts in the labeling process.
- Presented an embedding network that aligns document embeddings with expert knowledge to swiftly detect significant latent patterns for label creation.
- Offered a visual analytics tool designed to seamlessly integrate the workflow and embedding network, featuring coordinated views and interactions to expedite and optimize the labeling process efficiently.

#### PAPERS IN PREPARATION

**Yuchen Wu**, Shenghan Gao, Shizhen Zhang, Xingbo Wang, Quan Li. *From Requirement to Solution: Unveiling Problem-Driven Design Patterns in Visual Analytics*.

Submitted to IEEE TVCG 2024

- Presented a methodology of meta-analysis for VA research from a problem-driven perspective.
- Contributed a solution typology and refined typologies of requirement and data, formulating updated abstraction frameworks for VA.
- Unveiled problem-solving practice of VA research through a dense, directed, and weighted graph.

**Yuchen Wu**, Shizhen Zhang, Shengxin Li, Qian Zhu, Quan Li. *“on Selection Techniques that enables unaligned gaze-hand coordination in 3D Environments”*.

Submitted to ACM CHI 2025

- Proposed a gaze-hand based selection technique that adapts the inherent gaze-hand coordination observed in human reach-to-grasp process to 3D environments.
- Conducted a series of cross-reality experiments comparing UPinch to Gaze + Pinch, Gaze + Handray and Reality, identifying their gaze-hand characteristics in diverse tasks.

#### CONFERENCE PRESENTATIONS

*LiveRetro: Visual Analytics for Strategic Retrospect in Livestream E-Commerce*.  
VIS 2023, Victoria, Melbourne, Australia.

*Trinity: Synchronizing Verbal, Nonverbal, and Visual Channels to Support Academic Oral Presentation Delivery*.

ChineseCHI 2024, Shenzhen, Guangdong, China.

#### SERVICES & ACTIVITIES

**ShanghaiTech University**, Shanghai, China

*Volunteer*

Nov. 2023

Volunteer in Shanghai International Marathon.

**ShanghaiTech University**, Shanghai, China

*Entrant to the Entrepreneurship Innovation Conference*

Nov. 2023

Patent application for Trinity and roadshow to investors

#### SKILLS

**Computer Science:** Data Visualization, AI&ML, Web Programming, Data Mining.

**Research:** Quantitative & Qualitative Research, Human-centered Design, Controlled User Study, Interview, Iterative Design.

**Frameworks&Tools:** D3.js, Unreal, Rhinoceros, Figma, Miro.

**Languages:** Mandarin Chinese, English. Python, C/C++, JavaScript, Vue, HTML, CSS, L<sup>A</sup>T<sub>E</sub>X.