Yangtian Liu

Meng Minwei Building, Zijingang Campus, Zhejiang University, Hangzhou, China
+8618770372181 yt-liu@zju.edu.cn

Research Profile

Ph.D. candidate in Computer Science at Zhejiang University, focusing on data visualization and human-computer interaction. Research explores interactive methods for time-series pattern querying and visualization authoring, with work published at CHI and accepted at UIST.

Education

Zhejiang University **Sep. 2023 – Present**
Ph.D. Candidate in Computer Science *Hangzhou, Zhejiang*
Advisor: Prof. Yingcai Wu *Expected Graduation: June 2028*

Hunan University **Sep. 2019 – June 2023**
Bachelor of Science in Computer Science *Changsha, Hunan*

Relevant Coursework

- Research Methods in Computer Science
- Applied Mathematics for Computer Science I & II
- Scientific Computing Visualization and Application Development
- Virtual Reality
- 3D Animation and Interactive Technology
- Advanced Database Technology

Selected Publications

[1] **Yangtian Liu**, Shuhan Liu, Guobin Tu, Yunfan Zhou, Xiwen Cai, Di Weng, and Yingcai Wu. "ChronoMantic: A Natural Language Interface for Interactive Time Series Pattern Query." *The 39th Annual ACM Symposium on User Interface Software and Technology (UIST '26)*, 2026. Accepted, forthcoming.

[2] Shuhan Liu, **Yangtian Liu**, Junxin Li, Yanwei Huang, Yue Shangguan, Zikun Deng, Di Weng, and Yingcai Wu. "RidgeBuilder: Interactive Authoring of Expressive Ridgeline Plots." *CHI Conference on Human Factors in Computing Systems (CHI '25)*, 2025. doi:10.1145/3706598.3714209.

Research Experience

State Key Lab of CAD&CG, Zhejiang University **Sep. 2023 – Present**
Graduate Researcher *Hangzhou, Zhejiang*

- Led the design and development of **ChronoMantic**, an interactive system for time-series pattern querying with natural-language input, visual interpretation feedback, and example-based query refinement; evaluated its effectiveness and usability through an annotated benchmark and a two-stage user study.
- Contributed to the design and development of **RidgeBuilder**, an interactive authoring tool for expressive ridgeline plots with customizable layouts and visual styles; supported evaluation through visualization reproduction tasks and questionnaire-based assessment.

Academic Service & Teaching

Peer Reviewer: Reviewed submissions for flagship HCI and visualization venues, including ACM CHI, ACM UIST, IEEE VIS, and IEEE TVCG; also reviewed for *Visual Informatics*
Teaching Assistant: Zhejiang University; assisted with course instruction and student support

Technical Skills

Programming: Python, TypeScript, JavaScript, HTML/CSS
Frameworks & Libraries: React, Redux Toolkit, D3.js, Flask, NumPy, pandas, SciPy
Research: Data Visualization, Human-Computer Interaction, Time-Series Analysis, User Studies
Tools: Git, LaTeX, Vite, Node.js