

# Xingchen Zeng

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## Research Focus and Vision

- Research Focus Multimodal Large Language Models, Data Visualization, Design Intelligence  
Research Vision My research seeks to empower Large Language Models with human-like comprehension and creation of structured visual content, unlocking new capabilities in AI-driven design, reasoning, and communication.

## Education

- Sep. 2023 - Present **Ph.D. in Data Science and Analytics**, *The Hong Kong University of Science and Technology (Guangzhou)*, Supervised by Prof. Wei Zeng and Prof. Wei Wang.  
Sep. 2019 - Jul. 2023 **B.Eng. in Data Science and Big Data Technology (Graduate with Distinction)**, *Central South University*, Supervised by Prof. Jiazhi Xia.

## Papers

### Under Review

- 2025 **DaVinci: Reinforcing Visual-Structural Syntax in MLLMs for Generalized Scientific Diagram Parsing**, Submitted to ICLR 2026.  
Xingchen Zeng, Zhewei Su, Hengming Zhang, Juyong Jiang, Jiazhi Xia, Wei Zeng
- 2025 **Chart-G1: Visually Grounded Chart Reasoning by Rewarding Multimodal Large Language Models**, Submitted to IEEE Transactions on Visualization and Computer Graphics.  
Xingchen Zeng, Yuanbang Liu, Jianing Hao, Wei Zeng

### First-Author Published

- 2024 **Advancing Multimodal Large Language Models in Chart Question Answering with Visualization-Referenced Instruction Tuning**, In IEEE Transactions on Visualization and Computer Graphics (In Proc. IEEE VIS2024), 2024, DOI:10.1109/TVCG.2024.3456159.  
Xingchen Zeng, Haichuan Lin, Yilin Ye, Wei Zeng
- 2024 **IntentTuner: An Interactive Framework for Integrating Human Intentions in Fine-tuning Text-to-Image Generative Models**, In Proceedings of ACM CHI Conference on Human Factors in Computing Systems, 2024, DOI:10.1145/3613904.3642165.  
Xingchen Zeng, Ziyao Gao, Yilin Ye, Wei Zeng
- 2023 **iHELP: Interactive Hierarchical Linear Projections for Interpreting Non-Linear Projections**, In Journal of Visualization, 26(3): 631-648, 2023, DOI:10.1007/s12650-022-00900-4.  
Xingchen Zeng, Haowen Zhou, Zhicong Li, Chenqi Zhang, Juncong Lin, Jiazhi Xia, Yanyi Yang, Xiaoyan Kui

### Co-Author Published

- 2025 **AKRMap: Adaptive Kernel Regression for Trustworthy Visualization of Cross-Modal Embeddings**, In Proceedings of Forty-Second International Conference on Machine Learning, 2025.  
Yilin Ye, Junchao Huang, Xingchen Zeng, Jiazhi Xia, Wei Zeng

2025 **GenColor: Generative Color-Concept Association in Visual Design**, In Proceedings of ACM CHI Conference on Human Factors in Computing Systems, 2025, DOI:10.1145/3706598.3713418.

Yihan Hou, Xingchen Zeng, Yusong Wang, Manling Yang, Xiaojiao Chen, Wei Zeng

2024 **ModalChorus: Visual Probing and Alignment of Multi-modal Embeddings via Modal Fusion Map**, In IEEE Transactions on Visualization and Computer Graphics (In Proc. IEEE VIS2024), 2024, DOI:10.1109/TVCG.2024.3456387.

Yilin Ye, Shishi Xiao, Xingchen Zeng, Wei Zeng

## Teaching & Mentoring Experience

### Teaching

2024 Fall **DSAA 5024 - Data Exploration and Visualization**, HKUST(GZ), Teaching Assistant.  
Gave a lecture on visualization literacy; prepared quizzes and graded assignments.

2024 Summer **Undergraduate Competition (Mathematical Modeling)**, HKUST(GZ), Teaching Assistant.

## Academic Activities and Services

### External Reviewing

Conferences CHI (2026), CHILBW (2025), VINCI (2024)

Journals Visual Informatics, IEEE Computer Graphics and Applications

### Volunteer

VINCI (2023), GAMES (2022)

*Last updated: December 22, 2025*