Yihan Hou

PhD Candidate, HKUST CIVAL

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Research Interest and Focus

My research is grounded in **Human-Computer Interaction (HCI)** and explores **Human-AI Collaborative Design**, focusing on bridging design expertise with intelligent systems. The core objective is to advance authoring tools for visualization and color design by establishing bidirectional knowledge exchange between human designers and AI. This approach combines domain-specific design knowledge with computational capabilities to enhance collaborative workflows while preserving creative control. My specific interests lie in computational color design, particularly color semantics, along with dashboard design. I am exploring the application of large models to facilitate advancements in these areas.

Education

The Hong Kong University of Science and Technology(Guangzhou) *Guangzhou, China*

Ph.D. in Computational Media and Arts *Sep. 2022 - Present*

Member of HKUST CIVAL, supervised by Prof. Wei Zeng and Prof. Huamin Qu

Xi'an Jiaotong-Liverpool University *Suzhou, China*

B.Sc. in Information and Computing Science (First Class Honours) *Sep. 2018 - Jul. 2022*

Member of xrVis Lab (XJTLU Visualization Research Group), supervised by Prof. Lingyun Yu

Liverpool University *Liverpool, UK*

B.Sc. in Information and Computing Science (First Class Honours) *Sep. 2018 - Jul. 2022*

Publications

Journal Articles

- M. Yang, **Y. Hou**, R. Chang, and W. Zeng. "Dashboard Vision: Using Eye-Tracking to Understand and Predict Dashboard Viewing Behaviors". IEEE Transactions on Visualization and Computer Graphics, 2025.
- Y. Ye, J. Hao, **Y. Hou**, Z. Wang, S. Xiao, Y. Luo, and W. Zeng. "Generative AI for Visualization: State of the Art and Future Directions". Visual Informatics, 2024.
- W. Zeng, X. Chen, **Y. Hou**, L. Shao, Z. Chu, and R. Chang. "Semi-Automatic Layout Adaptation for Responsive Multiple-View Visualization Design". IEEE Transactions on Visualization and Computer Graphics, 2023.
- **Y. Hou**, H. Zhu, H.-N. Liang, and Yu, L. "A Study of the Effect of Star Glyph Parameters on Value Estimation and Comparison". Journal of Visualization, 2023.
- S. Xiao, **Y. Hou**, C. Jin, and W. Zeng, "WYTIWYR: A User Intent-Aware Framework with Multi-modal Inputs for Visualization Retrieval," Computer Graphics Forum (Proceedings of EuroVis'23), 2023.

Conference Proceedings

- **Y. Hou**, X. Zeng, Y. Wang, M. Yang, X. Chen, and W. Zeng. "GenColor: Generative Color-Concept Association in Visual Design". CHI 2025. Yokohama, Japan, 2025.
- **Y. Hou**, H. Cui, R. Chen, and W. Zeng. "Understanding the Impact of Referent Design on Scale Perception in Immersive Data Visualization". CHI'EA 2024. HI, USA, 2024.
- **Y. Hou**, M. Yang, H. Cui, L. Wang, J. Xu, and W. Zeng. "C2Ideas: Supporting Creative Interior Color Design Ideation with Large Language Model". CHI 2024. HI, USA, 2024.
- **Y. Hou**, Y. Liu, H. Wang, Z. Zhang, Y. Li, H.-N. Liang, and Yu, L. "DARC: A Visual Analytics System for Multivariate Applicant Data Aggregation, Reasoning and Comparison". Pacific Graphics (Short Paper), 2022. Kyoto, Japan, 2022.

Awards & Certificates

2021	**Certificate of Summer Undergraduate Research Fellow,**	*Suzhou, China*
2019-2021	**XJTLU Academic Achievement Scholarship,** for top 10 % students for 3 consecutive years	*Suzhou, China*
2020	**Best Prize,** 2020 Emerson Virtual Internship	*Suzhou, China*

Talks

May 2024	**Understanding the Impact of Referent Design on Scale Perception in Immersive Data Visualization**, ACM CHI 2024	*Hawai'i, USA*
May 2024	**C2ldeas: Supporting Creative Interior Color Design Ideation with a Large Language Model**, ACM CHI 2024	*Hawai'i, USA*
Oct. 2023	**Semi-Automatic Layout Adaptation for Responsive Multiple-View Visualization Design**, IEEE Vis 2023	*Melbourne, Australia*
Sep. 2022	**DARC: A Visual Analytics System for Multivariate Applicant Data Aggregation, Reasoning and Comparison**, Pacific Graphics'22	*Virtual*
Jul. 2022	**A Study of the Effect of Star Glyph Parameters on Value Estimation and Comparison**, ChinaVis'22	*Qinghai, China*

References available upon request.