

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 Interaction** in design contexts, focusing on bridging design expertise with intelligent systems. The core objective is to advance authoring tools for visualization and color design by establishing a bidirectional knowledge exchange, where human designers contribute domain-specific knowledge to inform AI, and AI provides knowledge-driven insights to enhance human design processes. 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)

Ph.D. in Computational Media and Arts

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

Guangzhou, China

Sep. 2022 - Present

Xi'an Jiaotong-Liverpool University

B.Sc. in Information and Computing Science (First Class Honours)

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

Suzhou, China

Sep. 2018 - Jul. 2022

Liverpool University

B.Sc. in Information and Computing Science (First Class Honours)

Liverpool, UK

Sep. 2018 - Jul. 2022

Publications

CONFERENCE PROCEEDINGS

- **Y. Hou**, X. Zeng, Y. Wang, M. Yang, X. Chen, and W. Zeng. "GenColor: Generative Color-Concept Association in Visual Design", in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems*, 2025.
- **Y. Hou**, H. Cui, R. Chen, and W. Zeng. "Understanding the Impact of Referent Design on Scale Perception in Immersive Data Visualization", in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI LBW'24)*, 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", in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems*, 2024.
- **Y. Hou**, Y. Liu, H. Wang, Z. Zhang, Y. Li, H.-N. Liang, and L. Yu. "DARC: A Visual Analytics System for Multivariate Applicant Data Aggregation, Reasoning and Comparison", in *Proceedings of the Pacific Conference on Computer Graphics and Applications (Short Paper)*, 2022.

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 L. Yu, "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.

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	<i>Hawai'i, USA</i>
May 2024	C2Ideas: Supporting Creative Interior Color Design Ideation with a Large Language Model , ACM CHI 2024	<i>Hawai'i, USA</i>
Oct. 2023	Semi-Automatic Layout Adaptation for Responsive Multiple-View Visualization Design , IEEE Vis 2023	<i>Melbourne, Australia</i>
Sep. 2022	DARC: A Visual Analytics System for Multivariate Applicant Data Aggregation, Reasoning and Comparison , Pacific Graphics'22	<i>Virtual</i>
Jul. 2022	A Study of the Effect of Star Glyph Parameters on Value Estimation and Comparison , ChinaVis'22	<i>Qinghai, China</i>

References available upon request.