

Yifan Cao

DATA VISUALIZATION · HUMAN-COMPUTER INTERACTION (HCI) · SOCIAL COMPUTING

Postdoctoral Fellow, Interdisciplinary Research (Data Science & Social Computing), HKUST

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Summary

I am an interdisciplinary researcher in **data science and social computing**, applying computational methods like human-computer interaction (HCI) and visual analytics to create new empirical tools and analytical perspectives for the social sciences and humanities. My research focuses on:

- **Social Computing & Digital Economies:** Analyzing socio-cultural dynamics, trust formation, and collective economic behaviors within online communities, particularly in digital economies, by integrating qualitative methods with network and visual analytics.
- **Visual Analytics & Interactive Systems:** Designing and developing novel visual analytics systems to support the exploration and sense-making of complex data, such as large-scale transaction networks and fragmented narrative clues.
- **Digital Humanities & Cultural Heritage:** Employing immersive technologies (VR/AR), interactive storytelling, and data art for the digital preservation, interpretation, and revitalization of cultural assets, including intangible heritage, classical literature, and philosophical texts.

Education

10/2024 - 03/2025	Remote Exchange Student , the Stratford School of Interaction Design and Business & the Games Institute, University of Waterloo	Ontario, Canada
05/2023 - 01/2023	Visiting Student , the Collaborative Interactive Visualization & Analysis Laboratory (CIVAL), Hong Kong University of Science and Technology Guangzhou Campus, HKUST(GZ)	Guangzhou, China
09/2020 - 10/2025	Ph.D. Candidate , Individualized Interdisciplinary Program (Computational Media and Arts), Hong Kong University of Science and Technology (HKUST)	Hong Kong, China
09/2017 - 11/2018	Master of Arts , Global Communication, Chinese University of Hong Kong (CUHK)	Hong Kong, China
07/2016 - 08/2016	Summer School , Linguistic and Media, Duke University	Durham, USA
09/2013 - 06/2017	Bachelor of Chu Kochen Honors Program , Chinese Language and Literature, Zhejiang University	Hangzhou, China

Publications

ClueCart: Supporting Game Story Interpretation and Narrative Inference from Fragmented Clues [Best Paper Award]

Xiyuan Wang, **Yifan Cao**, Junjie Xiong, Sizhe Chen, Wenzuan Li, Junjie Zhang, Quan Li

Accepted to the ACM CHI Conference on Human Factors in Computing Systems (CHI), 2025, conditionally accepted, 2025

The Jade Gateway to Trust: Exploring How Socio-Cultural Perspectives Shape Trust Within Chinese NFT Communities

Yifan Cao, Reza Hadi Mogavi, Meng Xia, Leo Yu-Ho Lo, Xiaoqing Zhang, Mei-Jia Lou, Lennart E. Nacke, Yang Wang, Huamin Qu
Accepted to Conference on Computer-Supported Cooperative Work & Social Computing (CSCW24), 2024

Centennial Drama Reimagined: An Immersive Experience of Intangible Cultural Heritage through Contextual Storytelling in Virtual Reality

Jian Yu, Zhan Wang, **Yifan Cao**, Hao Cui, Wei Zeng*

Accepted to ACM Journal on Computing and Cultural Heritage (JOCCH), 2024

VR-Mediated Cognitive Defusion: A Comparative Study for Managing Negative Thoughts [Honorable Mention]

Kento Shigyo, **Yifan Cao**, Kentaro Takahira, Mingming Fan, Huamin Qu

Accepted to the ACM Multimedia Conference (MM24), 2024, with Honorable Mention Award

NFTracer: Tracing NFT Impact Dynamics in Transaction-flow Substitutive Systems with Visual Analytics

Yifan Cao, Qing Shi, Lue Shen, Kani Chen, Yang Wang, Wei Zeng*, Huamin Qu

Accepted to IEEE Transactions on Visualization and Computer Graphics (TVCG), 2024

Why Change My Design: Explaining Poorly Constructed Visualization Designs with Explorable Explanations

Leo Yu-Ho Lo, **Yifan Cao**, Leni Yang, Huamin Qu

Accepted to IEEE Conference on Visualization and Visual Analytics (VIS'23), 2023

NFTeller: Dual-centric Visual Analytics for Assessing Market Performance of NFT Collectibles

Yifan Cao, Meng Xia, Kento Shigyo, Furui Cheng, Qianhang Yu, Xingxing Yang, Yang Wang, Wei Zeng, Huamin Qu

Accepted to the 16th International Symposium on Visual Information Communication and Interaction (VINCI 23), 2023

NFTeller: Dual Centric Visual Analytics of NFT Transactions

Yifan Cao, Meng Xia, Kento Shigyo, Furui Cheng, Qianhang Yu, Xingxing Yang, Hongkun Liu, Wei Zeng, Yang Wang, Huamin Qu
Accepted to the IEEE International Conference on Big Data and Smart Computing (IEEE BigCamp 23), 2023

PoeticAR: Reviving Traditional Poetry of the Heritage Site of Jichang Garden via Augmented Reality

Jin Tian, **Yifan Cao**, Lingyi Feng, Dongting Fu, Linping Yuan, Huaming Qu, Yang Wang, Mingming Fan
Accepted to the ACM International Journal of Human-Computer Interaction (IJHCI), 2022

Explore Mindfulness Without Deflection: A Data Art Based On The Book Of Songs

Yifang Wang, **Yifan Cao**, Junxiu Tang, Yang Wang, Huamin Qu, Yingcai Wu
Accepted to the IEEE VIS Arts Program (VISAP 21), 2021

Services

Paper Review

- ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW): Full Paper Track, 2023
- The Annual Symposium on Computer-Human Interaction in Play (CHIPLAY): Work-In-Progress Track, 2023
- ACM Conference on Human Factors in Computing Systems (CHI): Full Paper Track, 2024
- ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW): Full Paper Jan. Track, 2024
- Annual ACM Symposium on User Interface Software and Technology (UIST): Full Paper Track, 2024
- ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW): Full Paper Jul. Track, 2024
- ACM Conference on Human Factors in Computing Systems (CHI): Full Paper Track, 2025

Teaching Assistant

- EMIA 2020 - Cross-disciplinary Design Thinking, HKUST, 2024
- INFH 5000 - Information Science and Technology: Essentials and Trends, HKUST(GZ), 2023
- CMAA 5008 - Visual Communication and Expression, HKUST(GZ), 2022

Project

AI-assisted Virtual Reality English Speaking Program for Secondary Students

Hong Kong

QEF Fund

2023 – Present

- Collaborated with TrumpTech and the Language Center to evaluate usability and technical issues of VR and web applications during iterative development phases.
- Drafted questionnaires to assess the effectiveness and user experience of the VR app.
- Facilitated on-site student testing of the VR and web applications, gathering user feedback for continuous improvement.

Experience

VISlab, HKUST

Hong Kong, China

Lab member supervised by Prof. Huamin Qu

2020 – Present

- Designing visual analytics tools to explore, understand, and analyze NFT communities (*NFTeller* and *NFTracer*)
- Serving as a team member for a QEF funding project.
- Designed the mascot named *Hong Huo Huo* for celebrating the official opening of HKUST (GZ), which then became a regular official souvenir for HKUST.

Platform and Content Group, Tencent

Beijing, China

Content Operation, Level 2-1

Aug., 2018 - Oct., 2019

- **Media Operation.** Facilitated topic selection meetings for the WeChat Official Account “Quanmeipai,” overseeing manuscript review, editing, and public opinion monitoring. Managed content quality through comprehensive monitoring and auditing for the Tencent News App media channel. Oversaw information operations and user-generated content (UGC) review for the “Top View” mini program, successfully launching and establishing the “Top View” WeChat Official Account from inception to execution. Interviewed Harry Edelson, the Chairman of the Advisory Board for Arcis Capital Partners; Pierre S. duPont, the heir of the Du Pont family; Yuquan Wang, the Venture Capitalist; and Fan He, a Professor from Peking University.
- **Brand Building and User Operations.** Involved in PR activities for the “Top View” mini program, including the development and maintenance of key opinion leaders (KOLs), reviewing and drafting press releases, and fostering peer and cross-border collaborations. Additionally, contributed to the Tencent News Innovation Operations Department by creating communication packages, organizing online activities related to economic and technology topics, and planning personal interviews. Responsibilities also included enhancing online community engagement and implementing strategies for promotion and user retention.
- **Coaching and Training Interns.**

Media Department, Jazzyear

Beijing, China

Journalist

Nov., 2019 - Jul., 2020

- **Brand Building.** Conducted interviews with practitioners in the science and technology sectors to gather first-hand insights from industries such as AI, autonomous driving, and data processing. Produced comprehensive industry analyses for CEOs and private equity firms in the science and technology fields. Authored non-fiction stories that blend humanistic and scientific elements to foster public acceptance. Additionally, pitched Jazzyear content to targeted boutique clients, including founders of technology firms and venture capitalists.
- **Business Cooperation.** Accomplished and published marketing articles in alignment with public relations requirements. Additionally, facilitated collaboration among the co-founder, business manager, and financial advisory group to engage potential clients effectively.

Key Skills

Visual Communication	Proficient in graphic design using Photoshop (Ps) and Premiere Pro (Pr)
UX Design	Experienced in user experience design with Figma
Data Visualization	Proficient in data visualization design
3D Modeling	Skilled in 3D modeling using Blender and Unity
Research Methods	Experienced in qualitative and mixed methods research
Prompt Engineering	Experienced in crafting effective prompts for AI models