

Yifan Cao

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

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

[Journal] **SocialFiVis: A Visual Analytics Sandbox for LLM-Grounded Multi-Agent Simulation in Social Finance**

Yi-Fan Cao, Qing Shi, Liangwei Wang, Leo Yu-Ho Lo, Lin Chen, Yuzi Han, Yang Wang, Kani Chen
IEEE Transactions on Visualization and Computer Graphics (TVCG) (CCF-A), To Appear, 2026.

[Conference] **Theory, Experience, and Instinct: A Glimpse Into AAA Game Processes And How UX Leaders Navigate Pre-Production**

Ivana Randelshofer, Joseph Tu, **Yi-Fan Cao**, Reza Hadi Mogavi, Ville Mäkelä, Lennart E. Nacke
In Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY), To Appear, 2026.

[Journal] **SupplyNet: Supporting Visual Exploratory Learning in Supply Chain via Contextual Multi-Agent Simulation**

Yanjia Li, Kelcy Kexin Han, Tianrui Hu, **Yi-Fan Cao**, Huamin Qu, SiCheng Song*
Journal of Visual Informatics, In Press, 2026. <https://doi.org/10.1016/j.visinf.2026.100345>

[Poster] **Theory, Experience, and Instinct: How AAA Game Studio UX Leaders Navigate Pre-Production**

Ivana Randelshofer, Joseph Tu, **Yi-Fan Cao**, Reza Hadi Mogavi, Ville Mäkelä, Lennart E. Nacke
In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI) (CCF-A), 2026

[Conference] **TableLens: Reviving the Narrative Interplay Between Tables and Text in Scholar Reading**

Liangwei Wang, Zhengxuan Zhang, **Yifan Cao**, Fuguee Tsung, Yuyu Luo*
In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI) (CCF-A), 2026

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

Xiyuan Wang, **Yifan Cao**, Junjie Xiong, Sizhe Chen, Wenxuan Li, Junjie Zhang, Quan Li*
In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI) (CCF-A), 2025. <https://doi.org/10.1145/3706598.3713381>

[Journal] 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*
In Proceedings of the ACM on Human-Computer Interaction (PACM HCI) (CCF-A), vol. 9, no. 2, 2025. <https://doi.org/10.1145/3711087>

[Journal] 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*
ACM Journal on Computing and Cultural Heritage (JOCCH), vol. 18, no. 1, 2025. <https://doi.org/10.1145/3705613>

[Journal] 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
IEEE Transactions on Visualization and Computer Graphics (TVCG) (CCF-A), vol. 31, no. 8, pp. 4369–4386, 2025. <https://doi.org/10.1109/TVCG.2024.3402834>

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

Kento Shigyo, **Yifan Cao**, Kentaro Takahira, Mingming Fan, Huamin Qu
In Proceedings of the ACM Multimedia Conference (MM) (CCF-A), 2024, pp. 117–126. <https://doi.org/10.1145/3664647.3681504>

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

Leo Yu-Ho Lo, **Yifan Cao**, Leni Yang, Huamin Qu*
IEEE Transactions on Visualization and Computer Graphics (TVCG) (CCF-A), vol. 30, no. 1, pp. 955–964, 2024. <https://doi.org/10.1109/TVCG.2023.3327155>

[Journal] 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*
International Journal of Human-Computer Interaction (IJHCI) (SCI-Q1), vol. 40, no. 6, pp. 1438–1454, 2024. <https://doi.org/10.1080/10447318.2023.2176806>

[Conference] 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*
In Proceedings of the 16th International Symposium on Visual Information Communication and Interaction (VINCI), 2023. <https://doi.org/10.1145/3615522.3615578>

[Poster] NFTeller: Dual Centric Visual Analytics of NFT Transactions

Yifan Cao, Xingxing Yang, Meng Xia, Hongkun Liu, Kento Shigyo, Wei Zeng, Furui Cheng, Yang Wang, Qianhang Yu, Huamin Qu*
In Proceedings of the IEEE International Conference on Big Data and Smart Computing (BigComp), 2023, pp. 293–294. <https://doi.org/10.1109/BigComp57234.2023.00057>

[Art Paper] 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*
In Proceedings of the IEEE VIS Arts Program (VISAP), 2021, pp. 73–84. <https://doi.org/10.1109/VISAP52981.2021.00014>

Services

Paper Review

2026

- IEEE Transactions on Visualization and Computer Graphics (TVCG) – Journal (CCF-A)
- ACM CSCW: Full Paper Track – Conference (CCF-A)
- IEEE VIS: Full Paper Track – Conference (CCF-A)
- Digital Business (Elsevier) – Journal

2025

- ACM CHI: Full Paper Track – Conference (CCF-A)
- Visual Informatics – Journal (JCR Q1)
- Cogent Arts & Humanities (Taylor & Francis) – Journal

2024

- ACM CSCW: Full Paper July Track – Conference (CCF-A)
- ACM UIST: Full Paper Track – Conference (CCF-A)
- ACM CSCW: Full Paper January Track – Conference (CCF-A)
- ACM CHI: Full Paper Track – Conference (CCF-A)

2023

- CHI PLAY: Work-In-Progress Track – Conference
- ACM CSCW: Full Paper Track – Conference (CCF-A)

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 – 2025

- **Usability Evaluation & Collaboration.** Partnered with TrumpTech and the HKUST Language Center to evaluate usability and technical issues of VR and web applications during iterative development phases.
- **Survey Design & Guidelines.** Drafted questionnaires to assess user experience and formulated a practical testing guideline to standardize the evaluation process.
- **User Testing & Feedback.** Facilitated on-site user testing sessions with students, gathering qualitative and quantitative feedback to inform iterative improvements.

Experience

Crypto-FinTech Lab, Hong Kong University of Science and Technology (HKUST)

Hong Kong, China

Postdoctoral fellow, supervised by Prof. Kani Chen

2025 – 2026

- **Grant Writing & Research Conceptualization.** Co-authored the proposal for the Research Impact Fund (RIF), articulating the objectives and application scenarios for the research framework.
- **Visual Analytics & Web3.** Designed visual analytics tools to explore decentralized communities, elucidating collective behaviors in digital economies.

AI & Journalism Lab, Hong Kong Baptist University (HKBU)

Hong Kong, China

Research associate (part-time), supervised by Prof. Yin Zhang

2025 – Present

- **Human-AI Collaboration Research in AI & Journalism.** Led interdisciplinary research on human-AI collaboration in GenAI-enabled journalism, driving research ideation, project planning/management, and manuscript development; a paper is currently under review.
- **Solomon AI (Aggregated LLM Platform) for Journalism Education.** Conducted mixed-methods user research and co-designed core features for *Solomon AI*, an aggregated LLM platform used in HKBU coursework to support journalism teaching.

VISlab, HKUST

Hong Kong, China

Lab member supervised by Prof. Huamin Qu

2020 – 2025

- **Visual Analytics Research.** Designing visual analytics tools to understand and analyze NFT communities (*NFTeller* and *NFTracer*).
- **Research Collaboration.** Serving as a team member for a QEF funding project.
- **Creative Design & Branding.** Designed HKUST (GZ)'s inaugural mascot *Hong Huo Huo*, adopted as a permanent official souvenir.

Media Department, Jazzyear

Beijing, China

Journalist

Nov., 2019 - Jul., 2020

- **Science Communication & Narrative Non-fiction.** Authored narrative non-fiction stories that bridged humanistic perspectives with complex scientific concepts (e.g., AI, autonomous driving) to foster public understanding and acceptance of emerging technologies.
- **Industry Analysis & Qualitative Inquiry.** Conducted in-depth interviews with practitioners in the technology sector to gather first-hand insights. Produced comprehensive industry analysis reports for CEOs and private equity firms, translating technical trends into strategic business intelligence.
- **Strategic Partnerships.** Facilitated cross-disciplinary collaborations among tech founders, business managers, and financial advisors, effectively pitching content to boutique clients, including venture capitalists.

Platform and Content Group, Tencent

Beijing, China

Content Operation, Level 2-1

Aug., 2018 - Oct., 2019

- **Product Operations & Leadership.** Spearheaded the content operations for the “Top View” Mini Program, successfully launching and establishing its WeChat Official Account from inception to execution. Oversaw UGC review and information operations to ensure platform growth.
- **Content Strategy & Editorial Management.** Orchestrated topic selection and manuscript review for the “Quanmeipai” Official Account; managed content quality and public opinion monitoring for the Tencent News App media channel.
- **Executive Interviews & Qualitative Inquiry.** Conducted high-profile interviews with global industry leaders, including Harry Edelson (Chairman of Arcis Capital Partners), Pierre S. duPont, Yuquan Wang (Venture Capitalist), and Prof. Fan He (Peking University), producing in-depth content on economic and technology topics.
- **Strategic Communication & Branding.** Cultivated brand influence by managing KOL relationships and organizing online activities. Implemented user retention strategies and fostered cross-border collaborations to enhance community engagement.
- **Team Management & Mentorship.** Mentored interns on editorial standards and operational workflows, facilitating their professional development.

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