Leni Yang

Personal Information

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Research Mission

I am interested in developing theories and tools that communicate complex data in an understandable and engaging manner to the general public to enhance data-informed decision-making for societal issues and individual well-being.

Education

2018 – 2022 **Ph.D. in Computer Science and Engineering**
Title: Guidance on data storytelling: making data stories understandable and compelling for the general public (Link)
The Hong Kong University of Science and Technology (HKUST), Hong Kong, China
Supervisor: Prof. Huamin Qu
Defended August 12, 2022

2014 – 2018 **B.S. in Information Systems**
University of Electronic Science and Technology of China, Chengdu, China

Experience

Sep. 2024 – **Postdoctoral Fellow**
INRIA Bordeaux, Talence, France
Be-aware project of the Bivwac team
My role is leading research projects for the deliverables of the Be-aware project under the supervision of Pierre Dragicevic, Yvonne Jansen, and Martin Hachet. The project involves collaboration with colleagues from LESSAC in behavioral economics and from CIRED who do integrated assessment modeling.

Nov. 2022 – Aug. 2024 **Postdoctoral Fellow**
The Hong Kong University of Science and Technology (HKUST), Hong Kong, China
Supervisor: Prof. Huamin Qu
I was in charge of many management tasks of the VisLab (team of 35 members), including onboarding new members, grant proposal writing, coordinating external collaborations, coordinating student training, and guest visiting.

July 2022 - Oct. 2022 **Digital Consultant**
Internship at, Deloitte iBond (Shanghai) Company Limited, Shanghai, China

Dec. 2020 - April. 2021 **Visiting Researcher**,
Supervised by Prof. Nan Cao at iDVx, Tongji University, Shanghai, China

Publications

The sign "§" indicates articles I presented at a conference. The sign "※" indicates articles articles for which I mentored the first author.

Journal Articles

[J6] 2023 ※ Yanna Lin, Haotian Li, **Leni Yang**, AoyuWu, Huamin Qu.
"InkSight: Leveraging Sketch Interaction for Documenting Chart Findings in Computational Notebooks."
*(Q1) IEEE Transactions on Visualization and Computer Graphics (**TVCG 2023**, special issue in **IEEE VIS2023**).* Doi: 10.1109/TVCG.2023.3327170, link to pdf.

[J5] 2023 Leo Yu-HoLo, Yi-Fan Cao, **Leni Yang**, Huamin Qu.
"Why Change My Design: Explaining Poorly Constructed Visualization Designs with Explorable Explanations."
*(***Q1***) IEEE Transactions on Visualization and Computer Graphics (**TVCG 2023**, special issue in **IEEE VIS2023**).* Doi: 10.1109/TVCG.2023.3327155, link to pdf.

[J4] 2023 Qian Zhu, Linping Yuan, Zian Xu, **Leni Yang**, Meng Xia, Zhuo Wang, Hai-Ning Liang, Xiaojuan Ma.
"From Reader to Experiencer: Design and Evaluation of an Interactive VR Story for Promoting the Situation Awareness of Public Health Threats."
*(***Q1***) International Journal of Human-Computer Studies (**IJHCS2023**).* Doi: 10.1016/j.ijhcs.2023.103137, link to pdf.

[J3] 2021 § **Leni Yang**, Cindy Xiong, Jason K. Wong, AoyuWu, Huamin Qu.
"Explaining with Examples: Lessons Learned from Crowdsourced Introductory Description of Information Visualizations."
*(***Q1***) IEEE Transactions on Visualization and Computer Graphics (**TVCG 2021**).* Doi:10.1109/TVCG.2021.3128157, link to pdf.

[J2] 2021 § **Leni Yang**, Xian Xu, XingYuLan,Ziyan Liu,Shunan Guo, Yang Shi, Huamin Qu, Nan Cao.
"A Design Space for Applying the Freytag's Pyramid Structure to Data Stories."
*(***Q1***) IEEE Transactions on Visualization and Computer Graphics (**TVCG 2021**, special issue in **IEEE VIS2021**).* Doi: 10.1109/TVCG.2021.3114774, link to pdf.

[J1] 2019 Ke Xu, Yun Wang, **Leni Yang**, YifangWang, Bo Qiao, Si Qin, Yong Xu, Haidong Zhang, Huamin Qu.
"Clouddet: Interactive Visual Analysis of Anomalous Performances in Cloud Computing Systems."
*(***Q1***) IEEE Transactions on Visualization and Computer Graphics (**TVCG 2019**, special issue in **IEEE VIS2019**).* Doi: 10.1109/TVCG.2019.2934, link to pdf.

Conference Papers

The conferences ACM CHI and PacificVis have program committees and a rigourous peer review process with at least three reviews. The acceptance rate of CHI is between 20-25% and PacificVis is between 20-30%.

[C4] 2024 ※ Fengjie Wang, Yanna Lin, **Leni Yang**, Haotian Li, Mingyang Gu, Min Zhu, Huamin Qu.
"OutlineSpark: Igniting AI-powered Presentation Slides Creation from Computational Notebooks through Outlines"
*(***A****) In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (**ACM CHI2024**).* Doi: 10.1145/3613904.364286, link to pdf.

[C3] 2023 ※ Xian Xu, AoyuWu, **Leni Yang**, Zheng Wei, Rong Huang, David Yip, Huamin Qu.
"Is It the End? Guidelines for Cinematic Endings in Data Videos."
*(***A****) In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (**ACM CHI2023**).* Doi: 10.1145/3544548.3580701, link to pdf.

[C2] 2022 § **Leni Yang**, AoyuWu, Wai Tong, Xian Xu, Zheng Wei, Huamin Qu.
"Understanding 3D Data Videos: From Screens to Virtual Reality."
(B) *In Proceedings of the IEEE Pacific Visualization Symposium (**PacificVis 2023**).* Doi: 10.1109/PacificVis56936.2023.00029, link to pdf.

[C1] 2022 ※ Xian Xu, **Leni Yang**, David Yip, Mingming Fan, Zheng Wei, Huamin Qu.
"From Wow to Why: Guidelines for Creating the Opening of a Data Video with Cinematic Styles."
*(***A****) In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (**ACM CHI2022**).* Doi: 10.1145/3491102.3501896, link to pdf.

Extended abstracts for demonstrations and posters

[EA2] 2023 Rui Sheng, **Leni Yang**, Haotian Li, Yan Luo, Ziyang Xu, Zhilan Zhou, David Gotz, Huamin Qu.
"Knowledge Compass: A Question Answering System Guiding Students with Follow-Up Question Recommendations."

*Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology (**UIST2023 Demo**).* Doi: 10.1145/3586182.3615785, link to pdf.

[EA1] 2023 HaoboLi, Kentaro Takahira, Kam Kwai Wong, **Leni Yang**, Wai Tong, Huamin Qu. "Landslide Visualization Situated on Tangible Terrain Models." *Electronic Proceedings of IEEE VIS 2023 (**IEEE VIS 2023 Poster**)*. Link to poster.

Research grant proposal writing

During my postdoc in VisLab, HKUST, from 2022 to 2024, I have co-contributed to four research grant applications in research problems formulation, and research methods design, and writing. Three were secured with around *€528,000*. Two of them are joint projects between VisLab and other research teams and I took charge of sections of responsibility of VisLab.

2024 "Study of the regional earth system for sustainable development under climate change in the Greater Bay Area" under the Research Grants Council (HongKong) - Areas of Excellence Scheme.
€10.4 million (HKD 87 million) for the joint project, €168,000 (HKD 1.4 million) for VisLab.

2024 "Visual Analytics of Student-AI Interaction Data for Generative AI-Assisted Learning" under the Research Grants Council (HongKong) - General Research Fund Scheme.
€113,000 (HKD 920,000) secured for VisLab.

2023 "A Digital Twin for Enhancing Coastal Resilience against Extreme Storm" under the Research Grants Council (HongKong) - Theme-based Research Scheme.
€ 7.6 million (HKD 62 Million) for the joint project, €247,000 (HKD 2 million) for VisLab.

Dissemination

Talks (presentations at conferences are only marked in the list of publications)

2024 "Communicate data insights engagingly and immersively with visual data storytelling", invited talk at SIGCHI Paris Chapter.

2024 "A journey in data storytelling", invited talk at BKB team, Labri, University of Bordeaux.

2024 "Empiricial study methodology in data visualizations", a guest lecture talk at the postgraduate course MSBD 5001 Foundations of Data Analytics in HKUST.

2023 "Establishing and Thriving in an Academic Career", invited talk at IEEE VIS 2023 Panel.

2023 "Bad Data Visualization Designs", invited talk at ChinaVis 2023 Panel.

Open Science

For research projects that I lead, I always share the research data either in the Open Science Framework platform (OSF: https://www.cos.io/products/osf) or standalone project websites for other researchers to scrutinize, reuse, and replicate my work.

2023 The website Freytag Design Space for the research "A Design Space for Applying the Freytag's Pyramid Structure to Data Stories."

2024 The website Immersive Data Video for the research "Understanding 3D Data Videos: From Screens to Virtual Reality."

2024 The website Cinematic Endings for the research "Is It the End? Guidelines for Cinematic Endings in Data Videos."

Service Activities

Conference and Workshop Organization

2024-10 Organizer of the workshop "Gen4DS: Data Storytelling in an Era of Generative AI", IEEE VIS 2024 with Xingyu Lan, Zezhong Wang, Yun Wang, Danqing Shi, and Sheelagh Carpendale.

2024-07 The Organizing Committee Secretary General, ChinaVis 2024 (Over 300 participants in HongKong).
I am the major coordinator of the local organization. I took charge of helping different

committees regarding local support, hosting regular progress meetings involving all committees, the timeline and budget controls of local matters, and coordinating the conferences on the event days.

2023-10 Organizer of the Chinese Students and Scholars Meet-up, IEEE VIS 2023.

2023-04 Organizer of the HKUST CHI Researchers Reunion, ACM CHI 2023.

Academic Peer Review

Committee member

ACM CSCW (2024)
PacificVis, Papers Journal Track (2025)

External reviewer

ACM CHI (2022, 2024, 2025)
PacificVis Conference Track (2025)
IEEE VIS (2024)
ChinaVis (2020, 2022, 2023, 2024)

Student Mentorship

In the last two years of my PhD and my postdoc in VisLab at HKUST, I have mentored junior students in different research steps, such as idea brainstorming, research questions formulation, research methods, paper writing.

2023–Now	Kentaro Takahira, PhD candidate from VisLab at HKUST
2023–2024	Dr. Yanna Lin, PhD graduated from VisLab at HKUST
2023	Fengjie Wang, visiting student from Sichuan University
2022–2023	Dr. Xian Xu, PhD graduated from VisLab at HKUST