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Education

- 2011.09 – 2015.07 📖 **Ph.D., Computer Engineering** in Nanyang Technological University, Singapore
Thesis title: *Visual Analytics for Massive Urban Public Transport Data*
Supervisors: Prof. Chi-Wing (Philip) Fu, and Dr. Stefan Müller Arisona
- 2007.09 – 2011.05 📖 **B.E., Computer Engineering** in Nanyang Technological University, Singapore
Second Upper Class Honor.

Work Experience

- 2021.11 – Present 📖 **Assistant Professor**, Thrust of Computational Media & Arts (CMA), The Hong Kong University of Science and Technology (Guangzhou).
- 📖 **Assistant Professor**, Thrust of Data Science & Analytics (DSA), The Hong Kong University of Science and Technology (Guangzhou).
- 📖 **Adjunct Assistant Professor**, Division of Emerging Interdisciplinary Areas (EMIA), The Hong Kong University of Science and Technology.
- 📖 **Adjunct Assistant Professor**, Department of Computer Science and Technology (CSE), The Hong Kong University of Science and Technology.
- 2018.03 – 2021.10 📖 **Associate Professor**, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences.
- Spring term, 2020 & 2021 📖 **Adjunct Associate Professor**, BNU-HKBU United International College (UIC).
- 2015.04 – 2018.02 📖 **PostDoc → Senior Researcher**, Future Cities Laboratory, Singapore-ETH Centre, ETH Zurich.
- 2013.06 – 2013.08 📖 **Visiting Scientist**, Chair of Information Architecture, ETH Zurich.

Research Publications

I publish mainly in visualization journals and conferences, among which *IEEE TVCG / IEEE VIS* ×21, *ACM CHI* ×8, and *CGF / EuroVis* ×5 are the premiere venues.

Summary: CCF A ×40, IEEE/ACM Transactions ×29, Best Papers ×5





*Corresponding author, Students/RAs under my supervision














Books


- 1 林俊聪, 夏佳志, 曾伟, and 郭诗辉, 数据可视化与设计思维 (面向新工科专业建设计算机系列教材). 清华大学出版社, 2025, ISBN: 9787302686637.













Journal Articles




- 1 Yilin Ye, Chenxi Ruan, Yu Zhang, Zikun Deng, and **Wei Zeng***, “DKMap: Interactive exploration of vision-language alignment in multimodal embeddings via dynamic kernel enhanced projection,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’25)*, 2026.


- 2 Jian Yu, Yilin Ye, Chen Tang, Yuanbang Liu, Chenxi Ruan, Jingxue Feng, Kaihao Zhang, and **Wei Zeng***, “Embodied heritage by integrating digital and physical visualization of eaves tiles to display cultural heritage kinship,” *npj Heritage Science*, vol. 13, no. 1, Article No.: 354, Pages 1–17, 2025.  DOI: 10.1038/s40494-025-01942-1.
- 3 Jian Yu, Zhan Wang, Yifan Cao, Hao Cui, and **Wei Zeng***, “Centennial drama reimaged: An immersive experience of intangible cultural heritage through contextual storytelling in virtual reality,” *ACM Journal on Computing and Cultural Heritage*, vol. 18, no. 1, Article No.: 11, Pages 1–22, 2025.  DOI: 10.1145/3705613.
- 4 Jianing Hao, Manling Yang, Qing Shi, Yuzhe Jiang, Guang Zhang, and **Wei Zeng***, “FinFlier: Automating graphical overlays for financial visualizations with knowledge-grounding large language model,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 31, no. 9, pp. 6353–6369, 2025.  DOI: 10.1109/TVCG.2024.3514138.
- 5 Liangwei Wang, Zhan Wang, Shishi Xiao, Le Liu, Fugee Tsung, and **Wei Zeng***, “VizTA: Enhancing comprehension of distributional visualization with visual-lexical fused conversational interface,” *Computer Graphics Forum (Proc. EuroVis’25)*, vol. 44, no. 3, e70110, 2025.  DOI: 10.1111/cgf.70110.
- 6 Liangwei Wang, Zhan Wang, Xi Zhao, Fugee Tsung, and **Wei Zeng***, “Antarctica storytelling: Creating interactive story maps for polar regions with graphic-based approach,” *The Visual Computer*, vol. 41, no. 4, pp. 2157–2169, 2025.  DOI: 10.1007/s00371-024-03489-x.
- 7 Manling Yang, Yihan Hou, Ling Li, Remco Chang, and **Wei Zeng***, “Dashboard vision: Using eye-tracking to understand and predict dashboard viewing behaviors,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 31, no. 10, pp. 6930–6945, 2025.  DOI: 10.1109/TVCG.2025.3532497.
- 8 **Wei Zeng***, Hongbo Fu, Nanxuan Zhao, and Remco Chang, “Human–AI interaction for visualization and visual analytics,” *IEEE Computer Graphics and Applications*, vol. 45, no. 6, pp. 11–13, 2025, ISSN: 1558-1756.  DOI: 10.1109/MCG.2025.3606311.
- 9 Xingchen Zeng, Haichuan Lin, Yilin Ye, and **Wei Zeng***, “Advancing multimodal large language models in chart question answering with visualization-referenced instruction tuning,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’24)*, vol. 31, no. 1, pp. 525–535, 2025.  DOI: 10.1109/TVCG.2024.3456159.
- 10 Yang Zhang, Jie Li, and **Wei Zeng**, “Latent space map for visual utilization of generated data,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 31, no. 12, pp. 10 746–10 761, 2025.  DOI: 10.1109/TVCG.2025.3614247.
- 11 Yifan Cao, Qing Shi, Lue Shen, Kani Chen, Yang Wang, **Wei Zeng***, and Huamin Qu, “NFTracer: Tracing NFT impact dynamics in transaction-flow substitutive systems with visual analytics,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 31, no. 8, pp. 4369–4386, 2025.  DOI: 10.1109/tvcg.2024.3402834.
- 12 Yijie Lian, Jianing Hao, **Wei Zeng***, and Qiong Luo, “A survey of visual insight mining: Connecting data and insights via visualization,” *Visual Informatics*, vol. 9, no. 4, p. 100 271, 2025, ISSN: 2468-502X.  DOI: 10.1016/j.visinf.2025.100271.
- 13 Yilin Ye, Rong Huang, Kang Zhang, and **Wei Zeng***, “Unified visual comparison framework for human and AI paintings using neural embeddings and computational aesthetics,” *IEEE Computer Graphics & Applications*, vol. 45, no. 2, pp. 19–30, 2025.  DOI: 10.1109/MCG.2025.3555122.
- 14 Yilin Ye, Shishi Xiao, Xingchen Zeng, and **Wei Zeng***, “ModalChorus: Visual probing and alignment of multi-modal embeddings via modal fusion map,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’24)*, vol. 31, no. 1, pp. 294–304, 2025.  DOI: 10.1109/TVCG.2024.3456387.

- 15 Zhan Wang, Qian Zhu, David Yip, Fugee Tsung, and **Wei Zeng**^{*}, “CineFolio: Cinematography-guided camera planning for immersive narrative visualization,” *Visual Informatics*, vol. 9, no. 3, p. 100 259, 2025.  DOI: 10.1016/j.visinf.2025.100259.
- 16 Jianing Hao, Qing Shi, Yilin Ye, and **Wei Zeng**^{*}, “TimeTuner: Diagnosing time representations for time-series forecasting with counterfactual explanations,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’23)*, vol. 30, no. 1, pp. 1183–1193, 2024.  DOI: 10.1109/TVCG.2023.3327389.
- 17 Qiaomu Shen, Chaozu Zhang, Xiao Yan, Chuan Yang, Dan Zeng, **Wei Zeng**, and Bo Tang, “CheetahTraj: Efficient visualization for large trajectory dataset with quality guarantee,” *IEEE Transactions on Knowledge and Data Engineering*, vol. 36, no. 11, pp. 5737–5752, 2024.  DOI: 10.1109/TKDE.2024.3387480.
- 18 Shishi Xiao, Qing Shi, Lingdan Shao, Bo Du, Yang Wang, Qiaomu Shen, and **Wei Zeng**^{*}, “MetroBUX: A topology-based visual analytics for bus operational uncertainty exploration,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 25, no. 6, pp. 5525–5538, 2024.  DOI: 10.1109/TITS.2023.3338700.
- 19 Shishi Xiao, Suizi Huang, Yue Lin, Yilin Ye, and **Wei Zeng**^{*}, “Let the chart spark: Embedding semantic context into chart with generative model,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’23)*, vol. 30, no. 1, pp. 284–294, 2024.  DOI: 10.1109/TVCG.2023.3326913.
- 20 **Wei Zeng**^{*}, Xi Chen, Yihan Hou, Lingdan Shao, Zhe Chu, and Remco Chang, “Semi-automatic layout adaptation for responsive multiple-view visualization design,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 30, no. 7, pp. 3798–3812, 2024.  DOI: 10.1109/TVCG.2023.3240356.
- 21 Yilin Ye, Jianing Hao, Yihan Hou, Zhan Wang, Shishi Xiao, Yuyu Luo, and **Wei Zeng**^{*}, “Generative AI for visualization: State of the art and future directions,” *Visual Informatics*, vol. 8, no. 2, pp. 43–66, 2024.  DOI: 10.1016/j.visinf.2024.04.003.
- 22 Yilin Ye, Qian Zhu, Shishi Xiao, Kang Zhang, and **Wei Zeng**^{*}, “The contemporary art of image search: Iterative user intent expansion via vision-language model,” *Proceedings of the ACM on Human-Computer Interaction*, vol. 8, no. CSCW1, Article No.: 180, Pages 1–31, 2024.  DOI: 10.1145/3641019.
- 23 Yilin Ye, Rong Huang, and **Wei Zeng**^{*}, “VISAtlas: An image-based exploration and query system for large visualization collections via neural image embedding,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 30, no. 7, pp. 3224–3240, 2024.  DOI: 10.1109/tvcg.2022.3229023.
- 24 Zezheng Feng, Fang Zhu, Hongjun Wang, Jianing Hao, Shuang-Hua Yang, **Wei Zeng**, and Huamin Qu, “HoLens: A visual analytics design for higher-order movement modeling and visualization,” *Computational Visual Media*, vol. 10, pp. 1079–1100, 2024.  DOI: 10.1007/s41095-023-0392-y.
- 25 Shidong Wang, **Wei Zeng**^{*}, Xi Chen, Yu Ye, Yu Qiao, and Chi-Wing Fu, “ActFloor-GAN: Activity-guided adversarial networks for human-centric floorplan design,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 29, no. 3, pp. 1610–1624, 2023.  DOI: 10.1109/TVCG.2021.3126478.
- 26 Shihui Guo, Yubin Shi, Pintong Xiao, Yinan Fu, Juncong Lin, **Wei Zeng**, and Tong-Yee Lee, “Creative and progressive interior color design with eye-tracked user preference,” *ACM Transactions on Computer-Human Interaction*, vol. 30, no. 1, Article No.: 5, Pages 1–31, 2023.  DOI: 10.1145/3542922.
- 27 Shishi Xiao, Yihan Hou, Cheng Jin, and **Wei Zeng**^{*}, “WYTIWYR: A user intent-aware framework with multi-modal inputs for visualization retrieval,” *Computer Graphics Forum (Proc. EuroVis’23)*, vol. 42, no. 3, pp. 311–322, 2023.  DOI: 10.1111/cgf.14832.
- 28 **Wei Zeng**, Chengqiao Lin, Kang Liu, Juncong Lin, and Anthony K. H. Tung, “Modeling spatial nonstationarity via deformable convolutions for deep traffic flow prediction,” *IEEE Transactions on*

Knowledge and Data Engineering, vol. 35, no. 3, pp. 2796–2808, 2023.  DOI: 10.1109/TKDE.2021.3112977.


- 29 Zhen Wen, **Wei Zeng**^{*}, Luoxuan Weng, Yihan Liu, Mingliang Xu, and Wei Chen, “Effects of view layout on situated analytics for multiple representations in immersive visualization,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’22)*, vol. 29, no. 1, pp. 440–450, 2023.  DOI: 10.1109/TVCG.2022.3209475.
- 30 Jincheng Jiang, Wei Tu, Hui Kong, **Wei Zeng**, Rui Zhang, and Milan Konecny, “Large-scale urban multiple-modal transport evacuation model for mass gathering events considering pedestrian and public transit system,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 12, pp. 23 059–23 069, 2022.  DOI: 10.1109/TITS.2022.3198178.
- 31 Linping Yuan, **Wei Zeng**^{*}, Siwei Fu, Zhiliang Zeng, Haotian Li, Chi-Wing Fu, and Huamin Qu, “Deep colormap extraction from visualizations,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 28, no. 12, pp. 4048–4060, 2022.  DOI: 10.1109/TVCG.2021.3070876.
- 32 Yanna Lin, **Wei Zeng**^{*}, Yu Ye, and Huamin Qu, “Saliency-aware color harmony models for outdoor signboard,” *Computers & Graphics*, vol. 105, pp. 25–35, 2022.  DOI: 10.1016/j.cag.2022.04.012.
- 33 Chi Zhang, **Wei Zeng**^{*}, and Ligang Liu, “UrbanVR: An immersive analytics system for context-aware urban design,” *Computers & Graphics*, vol. 99, pp. 128–138, 2021.  DOI: 10.1016/j.cag.2021.07.006.
- 34 Jiacheng Pan, Wei Chen, Xiaodong Zhao, Shuyue Zhou, **Wei Zeng**, Minfeng Zhu, Jian Chen, Siwei Fu, and Yingcai Wu, “Exemplar-based layout fine-tuning for node-link diagrams,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’20)*, vol. 27, no. 2, pp. 1655–1665, 2021.  DOI: 10.1109/TVCG.2020.3030393.
- 35 Lingdan Shao, Zhe Chu, Xi Chen, Yanna Lin, and **Wei Zeng**^{*}, “Modeling layout design for multiple-view visualization via bayesian inference,” *Journal of Visualization (Proc. ChinaVis’21)*, vol. 24, no. 6, pp. 1237–1252, 2021.  DOI: 10.1007/s12650-021-00781-z, **ChinaVis’21 Best Paper Honorable Mention Award**.
- 36 Mengyang Wu, **Wei Zeng**^{*}, and Chi-Wing Fu, “FloorLevel-Net: Recognizing floor-level lines with height-attention-guided multi-task learning,” *IEEE Transactions on Image Processing*, vol. 30, pp. 6686–6699, 2021.  DOI: 10.1109/TIP.2021.3096090.
- 37 **Wei Zeng**, Ao Dong, Xi Chen, and Zhang-lin Cheng, “VISTory: Interactive storyboard for exploring visual information in scientific publications,” *Journal of Visualization*, vol. 24, no. 1, pp. 69–84, 2021.  DOI: 10.1007/s12650-020-00688-1.
- 38 **Wei Zeng**, Chengqiao Lin, Juncong Lin, Jincheng Jiang, Jiazhi Xia, Cagatay Turkay, and Wei Chen, “Revisiting the modifiable areal unit problem in deep traffic prediction with visual analytics,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’20)*, vol. 27, no. 2, pp. 839–848, 2021.  DOI: 10.1109/TVCG.2020.3030410.
- 39 Xi Chen, **Wei Zeng**^{*}, Yanna Lin, Hayder Mahdi Al-manee, Jonathan Roberts, and Remco Chang, “Composition and configuration patterns in multiple-view visualizations,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’20)*, vol. 27, no. 2, pp. 1514–1524, 2021.  DOI: 10.1109/TVCG.2020.3030338.
- 40 Zezheng Feng, Haotian Li, **Wei Zeng**^{*}, Shuang-Hua Yang, and Huamin Qu, “Topology density map for urban data visualization and analysis,” *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS’20)*, vol. 27, no. 2, pp. 828–838, 2021.  DOI: 10.1109/TVCG.2020.3030469.
- 41 Zhiliang Zeng, Mengyang Wu, **Wei Zeng**^{*}, and Chi-Wing Fu, “Deep recognition of vanishing-point-constrained building planes in urban street views,” *IEEE Transactions on Image Processing*, vol. 29, pp. 5912–5923, 2020.  DOI: 10.1109/TIP.2020.2986894.












- 42 Zhutian Chen, **Wei Zeng**^{*}, Zhiguang Yang, Lingyun Yu, Chi-Wing Fu, and Huamin Qu, "LassoNet: Deep lasso-selection of 3d point clouds," *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS'19)*, vol. 26, no. 1, pp. 195–204, 2020.  DOI: 10.1109/TVCG.2019.2934332.
- 43 **Wei Zeng**, Qiaomu Shen, Yuzhe Jiang, and Alex Telea, "Route-aware edge bundling for visualizing origin-destination trails in urban traffic," *Computer Graphics Forum (Proc. EuroVis'19)*, vol. 38, no. 3, pp. 581–593, 2019.  DOI: 10.1111/cgf.13712.
- 44 Yu Ye, Daniel Richards, Yi Lu, Xiaoping Song, Yu Zhuang, **Wei Zeng**, and Teng Zhong, "Measuring daily accessed street greenery: A human-scale approach for informing better urban planning practices," *Landscape and Urban Planning*, vol. 191, p. 103 434, 2019.  DOI: 10.1016/j.landurbplan.2018.08.028.
- 45 Yu Ye, **Wei Zeng**^{*}, Qiaomu Shen, Xiaohu Zhang, and Yi Lu, "The visual quality of streets: A human-centred continuous measurement based on machine learning algorithms and street view images," *Environment and Planning B: Urban Analytics and City Science*, vol. 46, no. 8, pp. 1439–1457, 2019.  DOI: 10.1177/2399808319828734.
- 46 叶宇, 张昭希, 张啸虎, and 曾伟, "人本尺度的街道空间品质测度——结合街景数据和新分析技术的大规模、高精度评价框架," *国际城市规划*, vol. 34, no. 1, pp. 18–27, 2019.
- 47 Qiaomu Shen, **Wei Zeng**^{*}, Yu Ye, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, and Huamin Qu, "StreetVizor: Visual exploration of human-scale urban forms based on street views," *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS'17)*, vol. 24, no. 1, pp. 1004–1013, 2018.  DOI: 10.1109/TVCG.2017.2744159.
- 48 **Wei Zeng** and Yu Ye, "VitalVizor: A visual analytics system for studying urban vitality," *IEEE Computer Graphics and Applications*, vol. 38, no. 5, pp. 38–53, 2018.  DOI: 10.1109/MCG.2018.053491730.
- 49 叶宇, 张灵珠, 颜文涛, and 曾伟, "街道绿化品质的人本视角测度框架: 基于百度街景数据和机器学习的大规模分析," *风景园林*, vol. 25, no. 8, pp. 24–29, 2018.
- 50 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, and Kwan-Liu Ma, "A visual analytics design for studying rhythm patterns from human daily movement data," *Visual Informatics*, vol. 1, no. 2, pp. 81–91, 2017.  DOI: 10.1016/j.visinf.2017.07.001.
- 51 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, and Kwan-Liu Ma, "Visualizing the relationship between human mobility and points-of-interest," *IEEE Transactions on Intelligent Transportation Systems*, vol. 18, no. 8, pp. 2271–2284, 2017.  DOI: 10.1109/TITS.2016.2639320.
- 52 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Alex Erath, and Huamin Qu, "Visualizing waypoints-constrained origin-destination patterns for massive transportation data," *Computer Graphics Forum*, vol. 35, no. 8, pp. 95–107, 2016.  DOI: 10.1111/cgf.12778.
- 53 Afan Anwar, **Wei Zeng**, and Stefan Müller Arisona, "The time space diagram revisited," *Transportation Research Record: Journal of the Transportation Research Board*, vol. 14, no. 1046, 2014.  DOI: 10.3141/2442-01.
- 54 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Alexander Erath, and Huamin Qu, "Visualizing mobility of public transportation system," *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VIS'14)*, vol. 20, no. 12, pp. 1833–1842, 2014.  DOI: 10.1109/TVCG.2014.2346893.
- 55 **Wei Zeng**, Xianfeng Huang, Stefan Müller Arisona, and Ian Vince McLoughlin, "Classifying watermelon ripeness by analysing acoustic signals using mobile devices," *Personal and Ubiquitous Computing*, vol. 18, no. 7, pp. 1753–1762, 2014.  DOI: 10.1007/s00779-013-0706-7.
- 56 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, and Huamin Qu, "Visualizing interchange patterns in massive movement data," *Computer Graphics Forum (Proc. EuroVis'13)*, vol. 32, no. 3pt3, pp. 271–280, 2013.  DOI: 10.1111/cgf.12114.


- 57 Ian Vince McLoughlin, I Komang Narendra, Leong Hai Koh, Quang Huy Nguyen, Bharath Seshadri, **Wei Zeng**, and Chang Yao, "Campus mobility for the future: The electric bicycle," *Journal of Transportation Technologies*, vol. 2, no. 1, pp. 1–12, 2012.  DOI: 10.4236/jtts.2012.21001.









Conference Proceedings

- 1 Le Liu, Yuhao Wang, Bohan Shen, **Wei Zeng**, Shizhou Zhang, Di Xu, and Peng Wang, "Do large language models reason about uncertainty like humans? a benchmark on hurricane forecast visualization comprehension," in *Proceedings of AAAI*, 2026.
- 2 Haichuan Lin, Yilin Ye, Jiazhi Xia, and **Wei Zeng**, "SketchFlex: Facilitating spatial-semantic coherence in text-to-image generation with region-based sketches," in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'25)*, 2025, Article No.: 546, Pages 1–19.  DOI: 10.1145/3706598.3713801, **Best Paper Honorable Mention Award**.
- 3 Rong Huang, Chenxi Ruan, Bingchuan Jiang, and **Wei Zeng**^{*}, "SceneWeaver: A multi-agent collaborative system for 3D scene creation in video games," in *Proceedings of The 18th International Symposium on Visual Information Communication and Interaction*, 2025, Article No.: 26, Pages 1–8.  DOI: 10.1145/3769534.3769540.
- 4 Tianqi Luo, Chuhan Huang, Leixian Shen, Boyan Li, Shuyu Shen, **Wei Zeng**, Nan Tang, and Yuyu Luo, "nvBench 2.0: Resolving ambiguity in text-to-visualization through stepwise reasoning," in *Proceedings of NeurIPS Datasets and Benchmarks*, 2025.
- 5 Yihan Hou, Xingchen Zeng, Yusong Wang, Manling Yang, Xiaojiao Chen, and **Wei Zeng**^{*}, "GenColor: Generative color-concept association in visual design," in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'25)*, 2025, Article No.: 544, Pages 1–19.  DOI: 10.1145/3706598.3713418.
- 6 Yihan Hou, Yilin Ye, Liangwei Wang, Huamin Qu, and **Wei Zeng**^{*}, "C2Views: Knowledge-based colormap design for multiple-view consistency," in *Proceedings of Pacific Graphics*, 2025.  DOI: 10.2312/pg.20251301.
- 7 Yilin Ye, Junchao Huang, Xingchen Zeng, Jiazhi Xia, and **Wei Zeng**^{*}, "AKRMap: Adaptive kernel regression for trustworthy visualization of cross-modal embeddings," in *Proceedings of The 42nd International Conference on Machine Learning (Proc. ICML'25)*, 2025.
- 8 Yin Li, Liangwei Wang, Shiyuan Piao, Boo-Ho Yang, Ziyue Li, **Wei Zeng**, and Fugee Tsung, "MCCoder: Streamlining motion control with LLM-assisted code generation and rigorous verification," in *Proceedings of IEEE 21st International Conference on Automation Science and Engineering (CASE)*, IEEE, 2025.
- 9 Yusong Wang, Yihan Hou, Rong Huang, and **Wei Zeng**^{*}, "HeritageExplorer: Interactive visualization and dialogue system for multi-modal architectural heritage exploration," in *Proceedings of The 18th International Symposium on Visual Information Communication and Interaction*, 2025, Article No.: 56, Pages 1–9.  DOI: 10.1145/3769534.3769571.
- 10 Kaichen Nie, Hanning Shao, Yuchu Luo, Min Tian, Hao Wu, **Wei Zeng**, Xin Fu, and Xiaoru Yuan, "A-map: Interactive visual exploration of intercity accessibility dynamics based on railway network data," in *Proceedings of IEEE Pacific Visualization Conference (Proc. IEEE PacificVis'24)*, 2024, pp. 289–294.  DOI: 10.1109/PacificVis60374.2024.00040.
- 11 Ling Li, Yu Ye, Bingchuan Jiang, and **Wei Zeng**, "GeoReasoner: Geo-localization with reasoning in street views using a large vision-language model," in *Proceedings of The 41st International Conference on Machine Learning (Proc. ICML'24)*, 2024, pp. 29 222–29 233.
- 12 Linping Yuan, Boyu Li, Jindong Wang, Huamin Qu, and **Wei Zeng**^{*}, "Generating virtual reality stroke gesture data from out-of-distribution desktop stroke gesture data," in *Proceedings of IEEE Conference on*

Virtual Reality and 3D User Interfaces (Proc. IEEE VR'24), 2024, pp. 732–742.  DOI: 10.1109/VR58804.2024.00093.


- 13 Qian Zhu, Zhuo Wang, **Wei Zeng***, Wai Tong, Wei Yue Lin, and Xiaojuan Ma, “ “Make interaction situated” : Designing user acceptable interaction for situated visualization in public environments,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 196, Pages 1–21.  DOI: 10.1145/3613904.3642049.
- 14 Rong Huang, Haichuan Lin, Chuanzhang Chen, Kang Zhang, and **Wei Zeng***, “PlantoGraphy: Incorporating iterative design process into generative artificial intelligence for landscape rendering,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 168, Pages 1–19.  DOI: 10.1145/3613904.3642824.
- 15 Shishi Xiao, Liangwei Wang, Xiaojuan Ma, and **Wei Zeng***, “TypeDance: Creating semantic typographic logos from image through personalized generation,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 175, Pages 1–18.  DOI: 10.1145/3613904.3642185.
- 16 Xingchen Zeng, Ziyao Gao, Yilin Ye, and **Wei Zeng***, “IntentTuner: An interactive framework for integrating human intentions in fine-tuning text-to-image generative models,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 182, Pages 1–18.  DOI: 10.1145/3613904.3642165.
- 17 Yihan Hou, Hao Cui, Rongrong Chen, and **Wei 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, Article No.: 354, Pages 1–7.  DOI: 10.1145/3613905.3650783.
- 18 Yihan Hou, Manling Yang, Hao Cui, Lei Wang, Jie Xu, and **Wei Zeng***, “C2Ideas: Supporting creative interior color design ideation with a large language model,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 172, Pages 1–18.  DOI: 10.1145/3613904.3642224.
- 19 Zhan Wang, Linping Yuan, Liangwei Wang, Bingchuan Jiang, and **Wei Zeng***, “VirtuWander: Enhancing multi-modal interaction for virtual tour guidance through large language models,” in *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (Proc. ACM CHI'24)*, 2024, Article No.: 612, Pages 1–20.  DOI: 10.1145/3613904.3642235.
- 20 Ziyao Gao, Yiwen Zhang, Ling Li, Theodoros Papatheodorou, and **Wei Zeng***, “AI-rays: Exploring bias in the gaze of AI through a multimodal interactive installation,” in *Proceedings of SIGGRAPH Asia 2024 Art Papers*, 2024, Article No.: 1, Pages 1–7.  DOI: 10.1145/3680530.3695433.
- 21 Jianing Hao, Xibin Jiang, Qing Shi, and **Wei Zeng***, “Does where you are matter? a visual analytics system for covid-19 transmission based on social hierarchical perspective,” in *Proceedings of The 16th International Symposium on Visual Information Communication and Interaction (Proc. VINCI'23)*, 2023, Article No.: 6, Pages 1–5.  DOI: 10.1145/3615522.3615528.
- 22 Liangwei Wang, Zhan Wang, Xi Zhao, and **Wei Zeng***, “Storytelling in frozen frontier: Exploring graphic-based approach for creating interactive story maps in antarctica,” in *Proceedings of The 16th International Symposium on Visual Information Communication and Interaction (Proc. VINCI'23)*, 2023, Article No.: 2, Pages 1–8.  DOI: 10.1145/3615522.3615524, **Best Paper Award**.
- 23 Shihan Fu, Liangliang Qiang, and **Wei Zeng***, “Loop meditation: Enhancing novice’s vr meditation experience with physical movement,” in *Proceedings of The 16th International Symposium on Visual Information Communication and Interaction (Proc. VINCI' 23)*, 2023, Article No.: 16, Pages 1–5.  DOI: 10.1145/3615522.3615538.
- 24 Yifan Cao, Meng Xia, Kento Shigyo, Furui Cheng, Qianhang Yu, Xingxing Yang, Yang Wang, **Wei Zeng***, and Huamin Qu, “NFTeller: Dual-centric visual analytics for assessing market performance of NFT

collectibles,” in *Proceedings of The 16th International Symposium on Visual Information Communication and Interaction (Proc. VINCI'23)*, 2023, Article No.: 20, Pages 1–8.  DOI: 10.1145/3615522.3615578.

- 25 Yihan Chen, Yilin Ye, and **Wei Zeng***, “The rich, the poor, and the ugly: An aesthetic-perspective assessment of NFT values,” in *Proceedings of The 16th International Symposium on Visual Information Communication and Interaction (Proc. VINCI' 23)*, 2023, Article No.: 23, Pages 1–8.  DOI: 10.1145/3615522.3615545.
- 26 Qiaomu Shen, Yanhong Wu, Yuzhe Jiang, **Wei Zeng**, Alexis K H Lau, Anna Vianova, and Huamin Qu, “Visual interpretation of recurrent neural network on multi-dimensional time-series forecast,” in *Proceedings of IEEE PacificVis*, 2020, pp. 61–70.  DOI: 10.1109/PacificVis48177.2020.2785.
- 27 Zengyang Gong, Bo Du, Zhidan Liu, **Wei Zeng**, Pascal Perez, and Kaishun Wu, “SD-seq2seq: A deep learning model for bus bunching prediction based on smart card data,” in *Proceedings of International Conference on Computer Communications and Networks (Proc. ICCCN'20)*, 2020, pp. 1–9.  DOI: 10.1109/ICCCN49398.2020.9209686.
- 28 Ao Dong, **Wei Zeng***, Xi Chen, and Zhanglin Cheng, “VStory: Interactive storyboard for exploring visual information in scientific publications,” in *Proceedings of the 12th International Symposium on Visual Information Communication and Interaction (Proc. VINCI'19)*, 2019, Article No.: 12, Pages 1–8.  DOI: 10.1145/3356422.3356430, **Best Paper Award**.
- 29 Aurel von Richthofen, **Wei Zeng**, Shiho Asada, Remo Burkhard, Felix Heisel, Stefan Müller Arisona, and Simon Schubiger, “Urban mining: Visualizing the availability of construction materials for re-use in future cities,” in *Proceedings of 21st International Conference on Information Visualisation*, 2017, pp. 306–311.  DOI: 10.1109/iV.2017.34.
- 30 Jan Perhac, **Wei Zeng**, Shiho Asada, Remo Burkhard, Stefan Müller Arisona, Simon Schubiger, and Bernhard Klein, “Urban fusion: Visualizing urban data fused with social feeds via a game engine,” in *Proceedings of 21st International Conference on Information Visualisation*, **Best Paper Award**, 2017, pp. 312–317.  DOI: 10.1109/iV.2017.33.
- 31 **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, and Kwan-Liu Ma, “A visual analytics design for studying crowd movement rhythms from public transportation data,” in *Proceedings of ACM SIGGRAPH ASIA 2016 Symposium on Visualization*, 2016, Article No.: 4, Pages 1–8.  DOI: 10.1145/3002151.3002152.
- 32 **Wei Zeng**, Chen Zhong, Afan Anwar, Stefan Müller Arisona, and Ian Vince McLoughlin, “MetroBuzz: Interactive 3D visualization of spatiotemporal data,” in *Proceedings of the 1st International Conference on Computer & Information Science*, 2012, pp. 143–147.  DOI: 10.1109/ICCISci.2012.6297228.









Book Chapter and Guest Introduction

- 1 Roger Malina, Kang Zhang, **Wei Zeng**, and Guenter Wallner, Eds., *VINCI '23: Proceedings of the 16th International Symposium on Visual Information Communication and Interaction*, Guangzhou, China: Association for Computing Machinery, 2023, ISBN: 9798400707513.
- 2 Yu Ye, Dan Qiang, and **Wei Zeng**, “Form syntax 1.0: An analytical tool assisting urban design via the measuring of urban vitality,” in *The Routledge Handbook of Urban Design Research Methods*, Routledge, 2023, pp. 524–534.
- 3 **Wei Zeng**, Jan Perhac, Shiho Asada, Simon Schubiger, Stefan Müller Arisona, and Remo Burkhard, “Singapore views: A collaborative interactive visualisation and analysis framework for urban planning and design,” in *FCL Indicia II*, S. Cairns and D. Tunas, Eds., Lars Müller Publishers, 2018.
- 4 Simon Schubiger, Stefan Müller Arisona, Chen Zhong, **Wei Zeng**, and Remo Burkhard, “Advanced tools and workflows for urban designers,” in *FCL Indicia I*, S. Cairns and D. Tunas, Eds., Lars Müller Publishers, 2017, pp. 151–158, ISBN: 9783037785454.

- 5 **Wei Zeng** and Stefan Müller Arisona, “Visual analytics for urban public transport: Using visualizations to reveal the underlying movement patterns of urban public transport in singapore,” in *FCL Magazine*, vol. 3, 2015, pp. 52–59.
- 6 Chen Zhong, Tao Wang, **Wei Zeng**, and Stefan Müller Arisona, “Spatiotemporal visualisation: A survey and outlook,” in *Digital Urban Modeling and Simulation*, 1st ed., vol. 242, Springer, 2012, pp. 299–317.
 DOI: 10.1007/978-3-642-29758-8_16.







Teaching

Courses taught at HKUST(GZ)




Year 2025 –2026	 DSAA 5024 Data Visualization and Exploration, HKUST(GZ), Fall 2025 Class size: 50
Year 2024 –2025	 DSAA 5024 Data Visualization and Exploration, HKUST(GZ), Fall 2024 Class size: 55, Average SFQ Score: 4.45
Year 2023 –2024	 DSAA 5024 Data Visualization and Exploration, HKUST(GZ), Fall 2024 Class size: 27, Average SFQ Score: 4.76  CMAA 5023 Programming for VR/AR, HKUST(GZ), Fall 2023 Class size: 11, Average SFQ Score: 5.00
Year 2022 –2023	 CMAA 5023 Programming for VR/AR, HKUST(GZ), Spring 2023 Class size: 14, Average SFQ Score: 4.70  DSAA 5024 Data Visualization and Exploration, HKUST(GZ), Fall 2022 Class size: 29, Average SFQ Score: 4.71
Year 2021 –2022	 DSAA 5024 Data Visualization and Exploration, HKUST(GZ), Spring 2022 Class size: 11, Average SFQ Score: 4.89  MSBD 5005 Data Visualization, MSc (BDT) Program, HKUST, Spring 2022 Class size: 57, Average SFQ Score: 4.63

Professional Services

Journal Editorial Board

Associate Editor	 IEEE Computer Graphics & Applications, 2025 - present.  The Visual Computer, 2024 - present.  Visual Informatics, 2024 - present.  Journal of Big Data, 2023 - 2024.
Guest Editor	 IEEE Computer Graphics & Applications, SI: Human-AI Interaction for Graphics and Visualization, 2025.  IEEE Transactions on Computational Social Systems, SI: Augmenting Urban Brain with Visual and Social Intelligence, 2018.

Conference Organizing Chair

Paper Chair	 The 13th China Visualization and Visual Analytics Conference (ChinaVis'26), 2026
Art Paper Chair	 The 17th International Symposium on Visual Information Communication and Interaction (VINCI'24), 2024
Program Chair	 The 16th International Symposium on Visual Information Communication and Interaction (VINCI'23), 2023

Professional Services (continued)

Poster Chair	■	The 12th China Visualization and Visual Analytics Conference (ChinaVis'25), 2025
	■	The 11th China Visualization and Visual Analytics Conference (ChinaVis'24), 2024
	■	The 12th IEEE Pacific Visualization Symposium (PacificVis'19), 2019
Publicity Chair	■	The 15th International Symposium on Visual Information Communication and Interaction (VINCI'22), 2022
Forum Chair	■	ChinaVis International Forum, 2020 - 2023

Conference Program Committee

Associate Chairs	■	ACM CHI Conference on Human Factors in Computing Systems (CHI'25), Design Subcommittee
Program Committee	■	The IEEE Visualization Conference (IEEE VIS), 2021 - 2023, 2025
	■	Eurographics/IEEE-VGTC Symposium on Visualization (EuroVis) STARS, 2021, 2022
	■	China Visualization and Visual Analytics Conference (ChinaVis), 2017 - 2024
	■	International Conference on Computational Visual Media (CVM), 2017 - 2023
	■	Computer Graphics International Conference (CGI), 2023 - 2024

Journal & Conference Reviewer

Journal	■	IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG), Computer Graphics Forum (CGF), IEEE Computer Graphics and Applications (IEEE CG&A), IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE), IEEE Transactions on Intelligent Transportation Systems (IEEE TITS), IEEE Transactions on Computational Social Systems, IEEE Transactions on Network Science and Engineering, ACM Transactions on Intelligent Systems and Technology, ACM Transactions on Spatial Algorithms and Systems, Information Visualization, Journal of Visualization, Visual Informatics, Computer Aided Geometric Design, Computers & Graphics, Journal of Computational Social Science, Journal of Computer-Aided Design & Computer Graphics
Conference	■	IEEE VIS, EuroVis, PacificVis, ChinaVis, SIGGRAPH/Asia, ACM CHI, IEEE VR, VINCI, ISMAR, EuroGraphics, CVM, IVAPP

Grant Reviewer

NSFC	■	National Natural Science Foundation of China (Youth Program), 2023
	■	National Natural Science Foundation of China (Youth Program), 2020
	■	National Natural Science Foundation of China (General Program), 2019
ANID	■	Agencia National Research and Development Agency (ANID), 2022

SUPERVISION AND MANAGEMENT EXPERIENCE

PhD Students

2026.02 - present	■	Hengming ZHANG @ DSA
2025.09 - present	■	Zhewei SU @ CMA, Co-supervisor: Prof. Kang Zhang

SUPERVISION AND MANAGEMENT EXPERIENCE (continued)

2024.09 - present	■ Chenxi RUAN @ DSA, Co-supervisor: Prof. Zishuo Ding
	■ Yuanbang LIU @ DSA, Co-supervisor: Prof. Qiong Luo
	■ Ziyao GAO @ CMA, Co-supervisor: Prof. Theo Papatheodorou
	■ Haichuan LIN @ CMA, Co-supervisor: Prof. Kang Zhang
	■ Hongji LI @ CMA, Primary supervisor: Prof. Haining Liang
2023.09 - present	■ Zhengquan LI @ DSA, Primary supervisor: Prof. Zishuo Ding
	■ Zhiyao YANG @ CMA, Co-supervisor: Prof. Haining Liang
	■ Jian YU (Assc. Prof. at Guangzhou Academy of Fine Arts (GAFA)) @ CMA, Co-supervisor: Prof. Zeyu Wang
2022.09 - present	■ Xingchen ZENG @ DSA, Co-supervisor: Prof. Wei Wang
	■ Yijie LIAN @ DSA, Primary supervisor: Prof. Qiong Luo
	■ Yin LI @ DSA, Primary supervisor: Prof. Fuguee Tsung
	■ Yihan HOU @ CMA, Co-supervisor: Prof. Huamin Qu
	■ Zhan WANG @ CMA, Co-supervisor: Prof. Fuguee Tsung
	■ Rong HUANG @ CMA, Co-supervisor: Prof. Kang Zhang
	■ Jianing HAO @ DSA, Co-supervisor: Prof. Guang Zhang
2021.11 - 2025.07	■ Chuyi LI @ DSA, Primary supervisor: Prof. Lei Li
	■ Yilin YE @ CMA, Co-supervisor: Prof. Kang Zhang Next: ShuiMu PostDoc @ Tsinghua University

Master Students

2025.09 - present	■ Yu XIAO @ CMA
	■ Jiaheng ZHANG @ DSA
2024.09 - present	■ Zian ZHAO @ CMA
2024.01 - present	■ Yusong WANG @ CMA, Co-supervisor: Prof. Guobiao Hu
2023.09 - 2025.06	■ Manling YANG @ CMA, Co-supervisor: Prof. Luwen Yu Next: Ph.D. student @ Tufts University
	■ Yiwen ZHANG @ CMA, Co-supervisor: Prof. David Yip Next: RA @ HKUST(GZ)
2022.09 - 2024	■ Chunting LI @ DSA, Co-supervisor: Prof. Yuyu Luo Next: Credit Risk Policy Manager @ Opay
	■ Hangyu LI @ AI, Primary supervisor: Prof. Yingcong Chen
	■ Shishi XIAO @ CMA, Co-supervisor: Prof. Yingcong Chen Next: Ph.D. student @ Brown University
	■ Yihan Chen @ CMA, Co-supervisor: Prof. Kang Zhang Next: Ph.D. student @ Beijing Institute of Technology
	■ Hao CUI @ CMA, Co-supervisor: Prof. David Yip Next: Software Engineer @ China Mobile
	■ Haichuan Lin @ CMA, Primary supervisor: Prof. Kang Zhang Next: Ph.D. student @ HKUST(GZ)
	■ Wenjing FANG @ DSA, Co-supervisor: Prof. Yuekuan Zhou
	■ Zihao Zhu @ CMA, Co-supervisor: Prof. Hui Pan
	■ Zipeng Wang @ AI, Primary supervisor: Prof. Lin WANG
	■ Tianbo Pan @ AI, Primary supervisor: Prof. Lin WANG

SUPERVISION AND MANAGEMENT EXPERIENCE (continued)

2020.09 - 2023.06	Yexin Liu @ AI, Primary supervisor: Prof. Yingcong Chen
	Lekang Ren @ IPE, Primary supervisor: Prof. Danyang Xie
	Lingdan SHAO @ SIAT Next: Software Engineer @ Huawei
2019.09 - 2022.06	Xi CHEN @ SIAT Next: Software Engineer @ Meituan

RAs and Interns

2025.07 - present	Xingjia HAO, RA @ HKUST(GZ)
2025.07 - 2026.01	Hengming ZHANG, RA @ HKUST(GZ)
2025.07 - 2025.11	Yilun FAN, Visiting Ph.D. Student from Central South University
2024.09 - 2025.09	Xingyi WANG, RA @ HKUST(GZ)
2024.06 - 2025.08	Yuanbang LIU, Intern @ HKUST(GZ), undergraduate student from South China University of Technology
	Chenxi RUAN, Intern @ HKUST(GZ), undergraduate student from South China University of Technology
2024.06 - 2024.11	Qiuchen FAN, Intern @ HKUST(GZ), master student from Tianjin University
2024.01 - 2024.09	Zhuowen LIANG, Intern @ HKUST(GZ), undergraduate student from South China University of Technology
2024.06 - 2024.09	Xiaoxue ZHOU, Intern @ HKUST(GZ), undergraduate student from UIC
2023.06 - 2024.09	Ziyao GAO, RA @ HKUST(GZ), master student from Peking University, now PhD student with me
2022.07 - 2023.12	Qing SHI, Intern @ HKUST(GZ), graduated from Zhejiang University of Finance and Economics
2020.01 - 2021.08	Yanna LIN, Intern @ SIAT, PhD student from HKUST
2020.05 - 2021.07	Mengyang WU, remote supervision, PhD student from CUHK
2019.10 - 2020.03	Ze Zheng FENG, remote supervision, PhD student from HKUST
2019.05 - 2020.02	Zhiliang ZENG, remote supervision, PhD student from CUHK
2020.01 - 2021.05	Chengqiao LIN, Intern @ SIAT, master student from Xiamen University
2019.01 - 2019.05	Linping YUAN, Intern @ SIAT, PhD student from HKUST
2019.09 - 2020.07	Shidong WANG, Intern @ SIAT, master student from Shandong University
2017.10 - 2018.09	Chi ZHANG, Intern @ CIVAL, FCL, PhD student from University of Science and Technology of China
	Qiaomu Shen, remote supervision, PhD student from HKUST
2017.01 - 2017.03	Sisi Salia, Intern @ CIVAL, FCL, undergraduate student from NTU
2016.09 - 2018.02	Dr. Jan Perhac, PostDoc @ CIVAL, FCL
	Shiho Asada, Graphics Designer @ CIVAL, FCL
2016.09 - 2017.01	Filip Schramaka, RA @ CIVAL, FCL
2016.05 - 2016.07	Lu Yuhao, Intern @ CIVAL, FCL, undergraduate student from NTU
2015.05 - 2015.08	Er Zheng Hui, Intern @ CIVAL, FCL, undergraduate student from NTU

Awards

- | | |
|--------------------------------------|---|
| Best Paper Honorable Mention | ■ The ACM CHI Conference on Human Factors in Computing Systems (ACM CHI'25) |
| Best Paper | ■ The 16th International Symposium on Visual Information Communication and Interaction (VINCI'23) |
| Best Poster Honorable Mention | ■ The 9th China Visualization and Visual Analytics Conference (ChinaVis'22) |
| Best Paper Honorable Mention | ■ The 8th China Visualization and Visual Analytics Conference (ChinaVis'21) |