



# Zeng Wei, Ph.D.

## Assistant Professor

Computational Media & Arts Thrust, and Data Science & Analytics Thrust

Information Hub, HKUST (Guangzhou)

Nansha District, Guangzhou City, Guangdong Province, China

## Affiliated Assistant Professor

Computer Science and Engineering, HKUST

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## EDUCATION

**Ph.D.** in Computer Engineering, Nanyang Technological University 2015  
Thesis: Visual Analytics for Massive Urban Public Transport Data  
Supervisors: Prof. Chi-Wing (Philip) Fu, and Prof. Dr. Stefan Müller Arisona

**B.E.** in Computer Engineering, Nanyang Technological University 2011  
Second Upper Class Honor

## RESEARCH INTERESTS

**Research Areas:** Visualization, Visual Analytics, AR/VR, HCI, Vision and Graphics.

**Personality:** Hardworking, creative, and well-motivated for high-quality research.

**Career Objective:** To develop interactive visualizations that promote the interplay between humans, machines, and big data.

**Recent Interests:** Visualization and Visual Analytics, Creative Control over AIGC, Cultural Heritage

## WORK EXPERIENCE

**Assistant Professor** 2021.11 –  
Computational Media & Arts Thrust, and Data Science & Analytics Thrust,  
Information Hub, The Hong Kong University of Science and Technology (Guangzhou)

**Affiliated Assistant Professor** 2021.11 –  
CSE and EMIA, The Hong Kong University of Science and Technology

**Associate Researcher** 2018.03 – 2021.10  
Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences

**Adjunct Associate Professor** Spring 2020 & 2021  
BNU-HKBU United International College (UIC)

**Senior Researcher** 2017.06 – 2018.02  
**PostDoc Researcher** 2015.03 – 2017.05  
Future Cities Laboratory, Singapore-ETH Centre, ETH Zurich

**Visiting Scientist** 2013.06 – 2013.08  
Chair of Information Architecture, ETH Zurich

## PUBLICATIONS (Corresponding author\*, Students/RAs under my supervision)

I publish mainly in visualization journals and conferences, among which IEEE TVCG (Proc. IEEE VIS), ACM CHI, and CGF (Proc. EuroVis) are the premiere venues.

## Journal and Conference Publications

1. Ziyao Gao, Yiwen Zhang, Ling Li, Theo Papatheodorou, and **Wei Zeng\***, "AI-rays: Exploring Bias in the Gaze of AI Through a Multimodal Interactive Installation," in *SIGGRAPH Asia 2024 Art Papers*, Tokyo, Japan, 2024: ACM, doi: 10.1145/3680530.3695433.
2. Yilin Ye, Shishi Xiao, Xingchen Zeng, **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)*. Accepted.
3. Xingchen Zeng, Haichuan Lin, Yilin Ye, **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)*. Accepted.
4. Jian Yu, Ling Li, **Wei Zeng\***, "HarmonyWave: Immersive Space Sound Therapy with Audio-Visual Synesthesia", *Proceedings of The 17th International Symposium on Visual Information Communication and Interaction*. Accepted.
5. Liangwei Wang, Zhan Wang, Xi Zhao, Fugee Tsung, **Wei Zeng\***, "Antarctica Storytelling: Creating Interactive Story Maps for Polar Regions with Graphic-Based Approach", *The Visual Computer*, 2024. Accepted
6. Yifan Cao, Qing Shi, Lue Shen, Kani Chen, Yang Wang, **Wei Zeng\***, Huamin Qu, "NFTTracer: Tracing NFT Impact Dynamics in Transaction-flow Substitutive Systems with Visual Analytics", *IEEE Transactions on Visualization and Computer Graphics*, 2024. Accepted
7. Ling Li, Yu Ye, Binchuan Jiang\*, **Wei Zeng**, "GeoReasoner: Geo-localization with Reasoning in Street Views using a Large Vision-Language Model", *Proceedings of The International Conference on Machine Learning (ICML)*, 2024.
8. Yilin Ye, Jianing Hao, Yihan Hou, Zhan Wang, Shishi Xiao, Yuyu Luo, **Wei Zeng\***, "Generative AI for Visualization: State of the Art and Future Directions", *Visual Informatics*, 8(2):43-66, 2024.
9. Qiaomu Shen, Chaozu Zhang, Xiao Yan, Chuan Yang, Dan Zeng, **Wei Zeng**, 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.
10. 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 Late-Breaking Work)*, 2024, Article 354, 1-7.
11. Z. Wang, L. Yuan, L. Wang, B. Jiang, and **W. 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)*, 2024, Article 612, 1–20.
12. 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 (Proc. ACM CHI)*, 2024, Article 172, 1–18.
13. R. Huang, H. Lin, C. Chen, K. Zhang, and **W. 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)*, 2024, Article 168, 1–19.
14. X. Zeng, Z. Gao, Y. Ye, and **W. 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)*, 2024, Article 182, 1–18.
15. S. Xiao, L. Wang, X. Ma, and **W. 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)*, 2024, Article 175, 1–18.
16. Q. Zhu, Z. Wang, **W. Zeng\***, W. Tong, W. Lin, and X. 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)*, 2024, Article 196, 1–21.

17. L. Yuan, B. Li, J. Wang, H. Qu, and **W. 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)*, 2024, pp. 732-742.
18. Yilin Ye, Qian Zhu, Shishi Xiao, Kang Zhang, **Wei Zeng\***, "The Contemporary Art of Image Search: Iterative User Intent Expansion via Vision-Language Model", *Proc. ACM Hum.-Comput. Interact.*, vol. 8, no. CSCW1, Article 180:1-31, 2024
19. Shishi Xiao\*, Qing Shi\*, Lingdan Shao, Bo Du, Yang Wang, Qiaomu Shen, **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.
20. Ze Zheng Feng, Fang Zhu, Hongjun Wang, Jianing Hao, Shuang-Hua Yang, **Wei Zeng**, Huamin Qu, "HoLens: A Visual Analytics Design for Higher-order Movement Modeling and Visualization", *Computational Visual Media*, 2024. Accepted.
21. 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)*, 30(1): 284 – 294, 2024.
22. 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)*, 30(1): 1183 – 1193, 2024.
23. L. Wang, Z. Wang, X. Zhao, and **W. 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*, Article No.: 2, Pages 1–8 , 2023. **Best Paper**
24. Y. Chen, Y. Ye, and **W. 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*, Article No.: 23, Pages 1–8, 2023.
25. Y. Cao, M. Xia, K. Shigyo, F. Cheng, Q. Yu, X. Yang, Y. Wang, **W. Zeng\***, and H. 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*, Article No.: 20, Pages 1–8, 2023.
26. J. Hao, X. Jiang, Q. Shi, and W. 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*, Article No.: 6, Pages 1–5, 2023.
27. S. Fu, L. Qiang, and W. 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*, Article No.: 16, Pages 1–5, 2023.
28. Shishi Xiao, Yihan Hou, Cheng Jin, **Wei Zeng\***, "WYTIWYR: A User Intent-Aware Framework with Multi-modal Inputs for Visualization Retrieval", *Computer Graphics Forum (Proc. EuroVis'23)*, 42(3):311-322, 2023.
29. **Wei Zeng\***, Xi Chen, Yihan Hou, Lingdan Shao, Zhe Chu, 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.
30. Yilin Ye, Rong Huang, **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.
31. Zhen Wen, **Wei Zeng\***, Luoxuan Weng, Yihan Liu, Mingliang Xu, 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 2022)*, 29(1):440-450, 2023.

32. Jincheng Jiang, Wei Tu, Hui Kong, **Wei Zeng**, Rui Zhang, Milan Konecny, "Large-scale urban multiple-modal transport evacuation for mass gathering events considering pedestrian and public transit system", *IEEE Transactions on Intelligent Transportation System*, 23(12): 23059 – 23069, 2022.
33. Shihui Guo, Yubin Shi, Pintong Xiao, Yinan Fu, Juncong Lin, **Wei Zeng**, Tong-Yee Lee, "Creative and Progressive Interior Color Design with Eye-tracked User Preference", *ACM Transactions on Computer-Human Interaction*, 30(1), Article No.: 5, Pages 1–31, 2023.
34. Yanna Lin, **Wei Zeng\***, Yu Ye, Huamin Qu, "Saliency-aware color harmony models for outdoor signboard", *Computers & Graphics*, 105:25 - 25, 2022.
35. Shidong Wang, **Wei Zeng\***, Xi Chen, Yu Ye, Yu Qiao, Chi-Wing Fu, "ActFloor-GAN: Activity-Guided Adversarial Networks for Human-Centric Floorplan Design", *IEEE Transactions on Visualization and Computer Graphics*, 29(3): 1610 – 1624, 2023.
36. **Wei Zeng**, Chengqiao Lin, Kang Liu, Juncong Lin, Anthony KH Tung, "Modeling Spatial Nonstationarity via Deformable Convolutions for Deep Traffic Flow Prediction", *IEEE Transactions on Knowledge and Data Engineering*, 35(3): 2796 – 2808, 2023.
37. Chi Zhang, **Wei Zeng\***, Ligang Liu, "UrbanVR: An immersive analytics system for context-aware urban design", *Computers & Graphics*, 99:128 – 138, 2021.
38. Lingdan Shao, Zhe Chu, Xi Chen, Yanna Lin, **Wei Zeng\***, "Modeling Layout Design for Multiple-View Visualization via Bayesian Inference", *Journal of Visualization* (Proceedings of *ChinaVis 2021*), 24:1237-1252, 2021. **Best Paper Honorable Mention**
39. Mengyang Wu, **Wei Zeng\***, Chi-Wing Fu\*, "FloorLevel-Net: Recognizing Floor-Level Lines with Height-Attention-Guided Multi-task Learning", *IEEE Transactions on Image Processing*, 30: 6686 – 6699, 2021.
40. Lin-Ping Yuan, **Wei Zeng**, Siwei Fu, Zhiliang Zeng, Haotian Li, Chi-Wing Fu, Huamin Qu, "Deep Colormap Extraction from Visualizations", *IEEE Transactions on Visualization and Computer Graphics*, 28(12):4048-4060, 2022.
41. **Wei Zeng**, Chengqiao Lin, Juncong Lin, Jincheng Jiang, Jiazhi Xia, Cagatay Turkay, Wei Chen, "Revisiting the Modifiable Areal Unit Problem in Deep Traffic Prediction with Visual Analytics", *IEEE Transactions on Visualization and Computer Graphics* (Proceedings of *IEEE VAST 2020*), 27(2):839-848, 2021.
42. Xi Chen, **Wei Zeng\***, Yanna Lin, Hayder Mahdi Al-manee, Jonathan Roberts, Remco Chang, "Composition and Configuration Patterns in Multiple-View Visualizations", *IEEE Transactions on Visualization and Computer Graphics* (Proceedings of *IEEE InfoVis 2020*), 27(2):1514-1524, 2021.
43. Ze Zheng Feng, Haotian Li, **Wei Zeng\***, Shuang-Hua Yang, Huamin Qu, "Topology Density Map for Urban Data Visualization and Analysis", *IEEE Transactions on Visualization and Computer Graphics* (Proceedings of *IEEE VAST 2020*), 27(2): 828-838, 2021.
44. Jiacheng Pan, Wei Chen, Xiaodong Zhao, Shuyue Zhou, **Wei Zeng**, Minfeng Zhu, Jian Chen, Siwei Fu, Yingcai Wu, "Exemplar-based Layout Fine-Tuning for Node-link Diagrams", *IEEE Transactions on Visualization and Computer Graphics* (Proceedings of *IEEE InfoVis 2020*), 27(2):1655-1665, 2021.
45. **Wei Zeng**, Ao Dong, Xi Chen, Zhangling Cheng, "VStory: Interactive Storyboard for Exploring Visual Information in Scientific Visualizations," *Journal of Visualization* (an extension of the VINCI 2019 best paper), 24(1):69-84, 2020.
46. Zhiliang Zeng, Mengyang Wu, **Wei Zeng\***, Chi-Wing Fu, "Deep Recognition of Vanishing-Point-Constrained Building Plane in Urban Street Views", *IEEE Transactions on Image Processing*, 29: 5912 – 5923, 2020.
47. Zhutian Chen, **Wei Zeng\***, Zhiguang Yang, Lingyun Yu, Chi-Wing Fu, Huamin Qu, "LassoNet: Deep Lasso-Selection of 3D Point Clouds", *IEEE Transactions on Visualization and Computer Graphics* (Proceedings of *IEEE SciVis'19*), 26(1):195-204, 2020.



48. Zengyang Gong, Bo Du, Zhidan Liu, **Wei Zeng**, Pascal Perez, Kaishun Wu, "SD-seq2seq: A Deep Learning Model for Bus Bunching Prediction Based on Smart Card Data", *Proceedings of ICCCN 2020*, pp. 1 – 9, 2020.
49. Qiaomu Shen, Yanhong Wu, Yuzhe Jiang, **Wei Zeng**, Alexis K Lau, Anna Vilanova, Huamin Qu, "Visual Interpretation of Recurrent Neural Network on Multi-dimensional Time-series Forecast", *Proceedings of IEEE PacificVis'20*, pp. 61-70, 2020.
50. **Wei Zeng**, Qiaomu Shen, Yuzhe Jiang, Alex Telea, "Route-Aware Edge Bundling for Visualizing Origin-Destination Trails in Urban Traffic", *Computer Graphics Forum* (Proceedings of *EuroVis'19*), 38(3):581-593, 2019.
51. Yu Ye, **Wei Zeng\***, Qiaomu Shen, Yi Lu, Xiaohu Zhang, "The quality of place on streets: a human-centred continuous measurement based on machine learning algorithms and street view images", *Environment and Planning B: Urban Analytics and City Science*, 46(8):1439 – 1457, 2019.
52. Yu Ye, Daniel Richards, Yi Lu, Xiao-Ping Song, Yu Zhuang, **Wei Zeng**, Teng Zhong, "Measuring daily accessed street greenery: a human-scale approach for informing better urban planning practices", *Landscape and Urban Planning*, vol. 191, pp. 103434, 2019.
53. Ao Dong, **Wei Zeng\***, Xi Chen, Zhangling Cheng, "VStory: Interactive Storyboard for Exploring Visual Information in Scientific Visualizations," *Proceedings of the 12th International Symposium on Visual Information Communication and Interaction (VINCI)*, Shanghai, China, 2019, pp. 12:1-8. (Best Paper)
54. **Wei Zeng**, Yu Ye, "VitalVizor: A Visual Analytics System for Studying Urban Vitality", *IEEE Computer Graphics & Applications (Special Issue on Visualization for Smart City Applications)*, (38(5):38-53, 2018.
55. 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 (Proceedings of IEEE SciVis)*, 24(1):1004 - 1013, 2018.
56. **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 (Special Issue on Visual Analysis for ITS)*, 18(8):2271 - 2284, 2017.
57. **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*, 1(2):81 - 91, 2017.
58. Aurel von Richthofen, **Wei Zeng\***, Asada Shiho, Burkhard Remo, Heisel Felix, Stefan Müller Arisona, Schubiger Simon, "Urban Mining: Visualizing the Availability of Construction Materials for Re-Use in Future Cities", *Proceedings of 21st International Conference on Information Visualization*, pp. 306 - 311, 2017.
59. Jan Perhac, **Wei Zeng\***, Shiho Asada, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, Bernhard Klein, "Urban Fusion: Visualizing Urban Data Fused with Social Feeds via a Game Engine", *Proceedings of 21st International Conference on Information Visualization*, pp. 312 - 317, 2017. (Best Paper)
60. **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Alexander Erath and Huamin Qu, "Visualizing Waypoints-Constrained Origin-Destination Patterns for Massive Transportation Data", *Computer Graphics Forum*, 35(8):95 -107, 2016.
61. **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", *Proceedings of SIGGRAPH Asia Symposium on Visualization*, pp. 4:1 - 4:7, 2016.
62. **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona, Alexander Erath, Huamin Qu, "Visualizing Mobility of Public Transportation System", *IEEE Transactions on Visualization and Computer Graphics (Proceedings of IEEE VAST'14)*, 20(12):1833-1842, 2014.

63. Afian Anwar, **Wei Zeng**, Stefan Müller Arisona, "The Time Space Diagram Revisited," *Transportation Research Record: Journal of the Transportation Research Board (Proceedings of the Transportation Research Board (TRB'14))*, 2442:1-7, 2014.
64. **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*, 18(7):1753 - 1762, 2014.
65. **Wei Zeng**, Chi-Wing Fu, Stefan Müller Arisona and Huamin Qu, "Visualizing Interchange Patterns in Massive Movement Data", *Computer Graphics Forum (Proceedings of EuroVis'13)*, 32(3pt3):271 - 280, 2013.
66. 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*, 2(1):1 - 12, 2012.
67. **Wei Zeng**, Chen Zhong, Afian Anwar, Stefan Müller Arisona, and Ian Vince McLoughlin, "MetroBuzz: Interactive 3D Visualization of Spatiotemporal Data", *Proceedings of International Conference on Computer & Information Science*, pp. 143 - 147, 2012.

### Book Chapters and Magazine Articles

1. Y. Ye, D. Qiang, and **W. 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.
2. **Wei Zeng**, Jan Perhac, Shiho Asada, Simon Schubiger, Stefan Mueller Arisona and Remo Burkhard. "Singapore Views: A Collaborative Interactive Visualisation and Analysis Framework for Urban Planning and Design", *FCL Indicia II*, S. Cairns and D. Tunas, Lars Müller Publishers, 2018.
3. Simon Schubiger, Stefan Müller Arisona, Chen Zhong, **Wei Zeng**, Remo Burkhard, "Advanced Tools and Workflows for Urban Designers", *FCL Indicia I*, S. Cairns and D. Tunas, eds., Lars Müller Publishers, pp. 151 - 158, 2017.
4. **Wei Zeng**, Stefan Müller Arisona, "Visual Analytics for Urban Public Transport: Using Visualizations to Reveal the Underlying Movement Patterns of Urban Public Transport in Singapore", *FCL Magazine*, vol. 3, pp. 52 – 59, 2015.
5. Chen Zhong, Tao Wang, **Wei Zeng**, and Stefan Müller Arisona, "Spatiotemporal Visualization: A Survey and Outlook", *Digital Urban Modeling and Simulation*, vol. 242, pp. 299 – 317, 2012.

### RESEARCH GRANTS

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- Funding by Guangdong Basic and Applied Basic Research
  - Role: PI      Amount: 300,000 RMB      Period: 2024.04 – 2027.03
  - Project: Research on Intelligent Cultural Creative Generation Based on Controllable Image Generation Techniques
- Funding by Guangxi Tongliang Energy Technology Limited Co.
  - Role: PI      Amount: 400,000 RMB      Period: 2023.11 – 2024.11
  - Project: Iterative Multi-modal Image Interaction and Search System
- Funding by Westlake University
  - Role: PI      Amount: 100,000 RMB      Period: 2023.05 – 2023.12
  - Project: ImageAtlas: Image Dataset Exploration System Based on Neural Embedding
- Guangzhou Science and Technology Program City-University Joint Funding
  - Role: PI      Amount: 250,000 RMB      Period: 2023.04 – 2025.03
  - Project: An Analysis and Visualization Platform for Multimodal Embedding Space
- NSFC General Program
  - Role: PI      Amount: 600,000 RMB      Period: 2022.01 ~ 2025.12

- Project: Visual representation and interactive analysis for spatio-temporal sequence forecasting
- Guangdong Basic and Applied Basic Research Foundation
  - Role: PI      Amount: 100,000 RMB      Period: 2021.01 ~ 2023.12
  - Project: Human-in-the-loop deep traffic prediction
- NSFC Young Program
  - Role: PI      Amount: 270,000 RMB      Period: 2019.01 ~ 2021.12
  - Project: A High-Performance Visual Analytics Study for Mitigating Traffic Congestions Caused by Emergent Events
- SIAT Excellent Young Researcher Award
  - Role: PI      Amount: 200,000 RMB      Period: 2020.01 ~ 2021.12
  - Project: Interactive Weakly-Supervised Medical Image Segmentation
- NSFC Young
  - Role: Co-I    Amount: 270,000 RMB      Period: 2018.01 ~ 2020.12
  - Project: Human-Scale Walkability Measurement and Design – A Case Study on Shanghai
- Virtual Singapore
  - Role: Coordinator    Amount: 1,200,000 SGD      Period: 2017.03 ~ 2019.02
  - Project: Operable Large Scale Semantically Enriched LoD 3 Model Generation Using Multi-Source Data and User-friendly Interactive Editing

## TEACHING EXPERIENCE

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### Year 2023 – 2024

- 2024 Spring: UFUG 1602 Introduction to Java Computing @ UG, HKUST (GZ)
- 2023 Summer: HKUST (GZ) – CAA Joint Course @ HKUST (GZ) & CAA
- 2023 Fall:
  - CMAA 5023 Programming for VR/AR @ CMA, HKUST (GZ)
  - DSAA 5024 Data Visualization and Exploration @ DSA, HKUST (GZ)

### Year 2022 – 2023

- 2023 Spring: CMAA 5023 Programming for VR/AR @ CMA, HKUST (GZ)
- 2022 Fall: DSAA 5024 Data Visualization and Exploration @ DSA, HKUST (GZ)

### Year 2021 – 2022

- 2022 Spring:
  - DSAA 5024 Data Visualization and Exploration @ DSA, HKUST (GZ)
  - MSBD 5005 Data Visualization @ Big Data Technology Program, HKUST

### Before Joining HKUST (GZ)

- 2021 Fall: Data visualization @ SIAT, CAS
- 2021 Spring: DS 4073 Introduction to data visualization @ UIC
- 2020 Fall: Data visualization @ SIAT, CAS
- 2020 Spring:
  - DS 4073 Introduction to data visualization @ UIC
  - DS 7063 Advanced data visualization @ UIC
- 2020 Summer School: Geospatial Visualization @ Zhejiang University

- 2019 Summer School: Topics in Geospatial Visualization @ Peking University
- 2017 Summer School: Urban Data Visualization @ NUS, Singapore

## AWARDS & SCHOLARSHIP

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- VINCI 2023 Best Paper
- ChinaVis 2021 Best Paper Honorable Mention
- VINCI 2019 Best Paper
- International Conference on Information Visualization 2017 Best Paper
- SEC-NTU PhD Funding 2011 – 2015

## PROFESSIONAL EXPERIENCES

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- **Journal Editorial Board**
  - Journal of Big Data, Associate Editor 2023 -
  - Visual Informatics, Young Editor 2023 –
  - IEEE T-CSS, Guest Editor (SI: Augmenting Urban Brain with Visual and Social Intelligence) 2018
- **Conference Organizing Chairs**
  - VINCI Art Paper Co-Chair 2024
  - VINCI Program Co-Chair 2023
  - VINCI Publicity Co-Chair 2022
  - ChinaVis International Forum Co-Chair 2020-21
  - PacificVis Poster Co-Chair 2019
- **Conference Program Committee Members**
  - IEEE VIS 2021 - 2023
  - EuroVis STARS 2022 - 2023
  - ChinaVis 2017 – 2023
  - CGI 2023
  - IVAPP 2019
- **Journal & Conference Reviewers**
  - IEEE Transactions on Visualization and Computer Graphics, Computer Graphics Forum, IEEE Computer Graphics and Applications, Information Visualization, Journal of Visualization, Visual Informatics, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Intelligent Transportation Systems, 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, Computer Aided Geometric Design, Computers & Graphics, Journal of Computational Social Science, etc.
  - IEEE VIS, EuroVis, PacificVis, ChinaVis, SIGGRAPH, ACM CHI, VINCI, IVAPP, ICIV, etc.
- **Memberships**
  - Member of CCF 2019 –
  - Member of CSIG 2019 –
    - Committee member of GSIG - Visualization and Visual Analytics 2019 –
  - Member of IEEE 2015 –
  - Student member of ACM SIGGRAPH Singapore Chapter 2013



## SUPERVISION AND MANAGEMENT EXPERIENCE

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- Ling Li (Ph.D. student @ CMA) 2024.01 –
- Yusong Wang (Ph.D. student @ CMA, Co-supervisor: Prof. Guobiao Hu) 2024.01 –
- Zhiyao Yang (Ph.D. student @ CMA) 2023.09 –
- Jian Yu (Ph.D. student @ CMA) 2023.09 –
- Xingchen Zeng (Ph.D. student @ DSA, Co-supervisor: Prof. Wei Wang) 2023.09 –
- Liangwei Wang (Ph.D. student @ DSA, Primary supervisor: Prof. Fugee Tsung) 2023.09 –
- Manling Yang (MPhil student @ CMA) 2023.09 –
- Yiwen Zhang (MPhil student @ CMA) 2023.09 –
- Xiangrong Liao (MPhil student @ DSA) 2023.09 –
- Chunting Li (MPhil student @ DSA) 2023.09 –
- Zhan Wang (Ph.D. student @ CMA, Co-supervisor: Prof. Fugee Tsung) 2022.09 –
- Yihan Hou (Ph.D. student @ CMA, Co-supervisor: Prof. Huamin Qu) 2022.09 –
- Jianing Hao (Ph.D. student @ DSA, Co-supervisor: Prof. Guang Zhang) 2022.09 –
- Rong Huang (Ph.D. student @ CMA, Primary supervisor: Prof. Kang Zhang) 2022.09 –
- Yilin Ye (Ph.D. student @ CMA, Co-supervisor: Prof. Kang Zhang) 2021.11 –
- Shishi Xiao (MPhil student @ CMA, Co-supervisor: Prof. Yingcong Chen) 2022.09 –
- Yihan Chen (MPhil student @ CMA, Co-supervisor: Prof. Kang Zhang) 2022.09 –
- Hao Cui (MPhil student @ CMA, Co-supervisor: Prof. David Yip) 2022.09 –
- Zhaoying Chen (MPhil student @ DSA) 2022.09 –
- Weijing Fang (MPhil student @ DSA) 2022.09 –
- Lingdan Shao (master student @ SIAT) 2020.08 – 2023.06
  - Responsive design and Bayesian model for multiple-view visualization
- Xi Chen (master student @ SIAT) 2019.06 – 2021.10
  - Design patterns and responsive design for multiple-view visualization
- Yanna Lin (PhD student @ HKUST) 2020.01 – 2021.08
  - Color harmony model for outdoor signboard design
- Mengyang Wu (PhD student @ CUHK) 2020.05 – 2021.07
  - FloorLevel-Net for floor-level line recognition in street views
- Zezheng Feng (PhD student @ HKUST) 2019.10 – 2020.03
  - Topology density map for urban data visualization and analysis
- Zhiliang Zeng (PhD student @ CUHK) 2019.05 – 2020.02
  - A deep-learning model for the recognition of building planes in street views
- Chengqiao Lin (master student @ Xiamen U.) 2020.01 – 2021.05
  - Visual analytics for understanding the MAUP effect on deep-learning-based traffic prediction
  - Integrating deformable convolutions for deep-learning-based traffic prediction
- Zhe Chu (master student @ SIAT) 2021.01 – 2021.08
- Xina Liu (master student @ SIAT) 2020.01 – 2021.08
- Xiaowei Zhang (master student @ USTC) 2020.07 – 2020.11
- Shidong Wang (master student @ Shandong U.) 2019.09 – 2020.07

- ActFloor-GAN model for floorplan design
- Linping Yuan (PhD student @ HKUST) 2019.01 – 2019.06
  - A deep learning model for extracting colormaps from visualization images
- Ao Dong (master student @ SIAT) 2018.03 – 2019.06
  - VIStory - an interactive storyboard for exploring visual information in scientific publication
- Chi Zhang (RA @ CIVAL, FCL) 2017.10 - 2018.09
  - UrbanVR – an immersive analytics system for context-aware urban design
- Qiaomu Shen (PhD student @ HKUST) 2017.01-2017.03
  - StreetVizor – an interactive visual analytics system for street view exploration
- Sisi Salia (RA @ CIVAL, FCL) 2017.01 – 2017.07
  - Energy-Related Severe Accident Database (ENSAD) visual explorer
- Dr. Jan Perhac (PostDoc @ CIVAL, FCL) 2016.09 – 2018.02
  - Singapore Views – a Unity-based visualization system for exploring Singapore information in both VR and big screen
- Shiho Asada (Graphics Designer @ CIVAL, FCL) 2016.09 – 2018.02
  - Graphics design for CIVAL projects.
- Filip Schramaka (Research Assistant @ CIVAL, FCL) 2016.09 – 2017.01
  - The virtual bicycle project.
- Lu Yuhao (Research Assistant @ CIVAL, FCL) 2016.05 – 2016.07
  - FCL Rationale Map (<http://rationale-map.fcl.sg/>)
- Er Zheng Hui (Research Assistant @ CIVAL, FCL) 2015.06 – 2015.08
  - Robust gesture recognition using Kinect 2 (<https://goo.gl/37j5bR>)