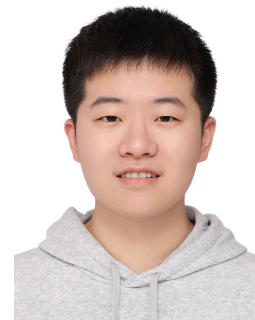# Chenglong Wang

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EDUCATION

Peking University — Shenzhen, CN
M.S. in Geography (Smart City and Big Data) — 2023/09–Now

- Topics: Geospatial Artificial Intelligence (GeoAI), Urban Computing, Cartography, Computer Vision, Responsible AI

Wuhan University — Wuhan, CN
B.S. in Geographic Information Science, GPA: 3.98/4.00 (ranked 1st/60 in the dept.) — 2019/09–2023/06

- Thesis: Urban Land-use Recognition and Monitoring Based on Multi-source Heterogeneous Spatial Big Data: a Multimodal Deep Learning Framework.

EXPERIENCE

Peking University — Shenzhen, CN
Team Member at SUPD-GeoAI Lab — 2022/09–Now

- Supervisor: Prof. Zhaoya Gong
- Topics: GeoAI, Urban Computing.

Microsoft Research Asia — Beijing, CN
AI Research Intern at Social Computing Group — 2024/07–2024/11

- Mentor: Dr. Fangzhao Wu & Dr. Xing Xie
- Topics: Responsible AI.

SenseTime Research — Shanghai, CN
AI Research Intern at Foundamental Vision Group — 2022/05–2022/09

- Mentor: Dr. Lewei Lu
- Topics: Multimodal Large Language Model.

Wuhan University — Wuhan, CN
Undergraduate Research Intern at Intelligent Information Processing Lab — 2022/01–2022/09

- Supervisor: Prof. Zhenzhong Chen
- Topics: Image and Video Understanding.

Wuhan University — Wuhan, CN
Undergraduate Research Intern at Urbanisation Research Group — 2021/01–2021/12

- Supervisor: Prof. Mengjun Kang
- Topics: Information Theory of Cartography, 3DGIS.

PUBLICATIONS

Peer-reviewed Journal Articles ([1]co-first author, [*]corresponding author)

1. Zhaoya Gong[1], **Chenglong Wang**[1], Yuting Chen[1], Bin Liu, Pengjun Zhao[*], Zhengzi Zhou. Learning spatial interaction representation with Heterogeneous Graph Convolution Networks for urban land-use inference. *International Journal of Geographical Information Science*, 2024.

2. **Chenglong Wang**, Tianjiao Chen, Yuqian Liu, Mengjun Kang[*], Shiliang Su, Binbo Li. TransMI: a Transfer-learning method for generalized Map Information evaluation. *Cartography and Geographic Information Science*, 2024.

3. Zhaoya Gong, Binbo Li, **Chenglong Wang**, Jun Chen, Pengjun Zhao[*]. BF-SAM: enhancing SAM through multi-modal fusion for fine-grained building function identification. *International Journal of Geographical Information Science*, 2024.

4. Binbo Li, Donghai Xie[*], Yu Wu[*], Lijuan Zheng, Chongbin Xu, Ying Zhou, Yibo Fu, **Chenglong Wang**, Bin Liu, Xin Zuo. Synthesis and Detection Algorithms for Oblique Stripe Noise of Space-borne Remote Sensing Images. *IEEE Transactions on Geoscience and Remote Sensing*, 2024.

5. Junfeng Xie, Xing Lv[*], Cun Chu, Ren Liu, Fan Mo, Binbo Li, **Chenglong Wang**. An Improved Image Registration Algorithm for Thermal Infrared and Panchromatic Image Based on Geometric Structural Properties. *ISPRS Annals of the Photogrammetry Remote Sensing and Spatial Information Sciences (ISPRS Annals), 2023.*

Peer-reviewed Conference Papers ([1]co-first author, [*]corresponding author)

1. **Chenglong Wang**[1], Zhicheng Deng[1]. Multi-perspective Spatiotemporal Context-aware Neural Networks for Human Mobility Prediction. *Proceedings of the International Conference on Advances in Geographic Information Systems (SIGSPATIAL) Workshops, 2023.*

2. Guanchen Ding[1], Wenwei Han[1], **Chenglong Wang**[1], Mingpeng Cui, Lin Zhou, Dianbo Pan, Jiayi Wang, Junxi Zhang, Zhenzhong Chen[*]. A Coarse-to-Fine Boundary Localization method for Naturalistic Driving Action Recognition. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2022.

Submitted Journal Articles ([1]co-first author, [*]corresponding author)

1. **Chenglong Wang**, Yuhao Kang, Zhaoya Gong[*], Pengjun Zhao, Yu Feng, Wenjia Zhang, Ge Li. CartoAgent: a multimodal large language model-powered multi-agent cartographic framework for map style transfer and evaluation. *International Journal of Geographical Information Science*, submitted in 2024/01/31.

2. Zhaoya Gong, **Chenglong Wang**, Bin Liu, Binbo Li, Wei Tu, Yuting Chen, Zhicheng Deng, Pengjun Zhao[*]. Multi-spatial urban function modeling: A multi-modal deep network approach for transfer and multi-task learning. *International Journal of Applied Earth Observation and Geoinformation*, submitted in 2023/12/24.

PRESENTATIONS

1. Oral Presentation (2024): CartoAgent: a multimodal large language model-powered multi-agent cartographic framework for map style transfer and evaluation. In *the First Asian Cartographic Conference*, Dec. 8-10, 2024, Hong Kong, China.

2. Oral Presentation (2024): CartoAgent: a multimodal large language model-powered multi-agent cartographic framework for map style transfer and evaluation. In *China Conference on Geography 2024*, Sep. 27-29, 2024, Nanjing, China.

3. Oral Presentation (2024): Theoretical-informed multimodal deep learning techniques and their applications in urban function modeling. In *Annual Conference on Geographic Model and Geographic Information Analysis*, Aug. 23-25, 2024, Beijing, China.

4. Poster Presentation (2024): CartoAgent: a multimodal large language model-powered multi-agent cartographic framework for map style transfer and evaluation. In *the 2nd Research Summit of Urban Science and Human Dynamics*, Aug. 9-10, 2024, Beijing, China.

5. Oral Presentation (2024): CartoAgent: a multimodal large language model-powered multi-agent cartographic framework for map style transfer and evaluation. In *International Symposium on Spatial Data Science*, Jul. 22-24, 2024, Virginia, USA.

6. Poster Presentation (2024): Uncovering the global and local structures of urban networks via Poincare Embedding. In *Annual Conference of the Association of Geographic Information Laboratories in Europe*, Jun. 4-7, 2024, Glasgow, UK.

7. Oral Presentation (2023): Multi-perspective Spatiotemporal Context-aware Neural Networks for Human Mobility Prediction. In *ACM SIGSPATIAL HuMob Challenge*, Nov. 13, 2023, Hamburg, Germany.

8. Oral Presentation (2023): Uncovering the global and local structures of urban networks via Poincare Embedding. In *City+2023@Perth*, Sep. 8-10, 2023, Perth, Australia.

9. Oral Presentation (2023): Uncovering the global and local structures of urban networks via Poincare Embedding. In *International Symposium on Location-Based Big Data and GeoAI*, Aug. 12, 2023, Cape Town, South Africa.

10. Oral Presentation (2023): TransMI: a Transfer-learning method for generalized Map Information evaluation. In *Annual Conference on GIS Theory and Methods*, May 20, 2023, Guilin, China.

11. Thesis Defense (2023): Urban land-use recognition and monitoring based on multi-source heterogeneous spatial big data: a multimodal deep learning framework. In *Wuhan University*, May 14, 2023, Wuhan, China.

12. Oral Presentation (2022): A Coarse-to-Fine Boundary Localization method for Naturalistic Driving Action Recognition. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*, Jun. 20, 2022, New Orleans, USA.

SCHOLARSHIPS

1. ICA Scholarship Award, International Cartographic Association. (USD: 500)	2024
2. Hongqiao Scholarship, Peking University. (RMB: 10,000)	2024
3. Xia Jianbai Outstanding Student Scholarship, Wuhan University. (RMB: 6,000)	2022
4. First-class Undergraduate Scholarship, Wuhan University. (RMB: 3,000)	2022
5. Yu Gang & Song Xiao Scholarship, Wuhan University. (RMB: 20,000, Top-0.1%)	2021
6. First-class Undergraduate Scholarship, Wuhan University. (RMB: 3,000)	2021
7. China National Scholarship, Ministry of Education of People's Republic of China. (RMB: 8,000)	2020
8. First-class Undergraduate Scholarship, Wuhan University. (RMB: 3,000)	2020
9. Haibin Scholarship, Municipal Government of Kunshan. (RMB: 20,000, Top-0.1%)	2019

HONORS

1. Stars of Tomorrow (Award of Excellent Intern), Microsoft Research Asia.	2024
2. Merit Student, Peking University.	2024
3. Academic Innovation Award, Peking University.	2024
4. Outstanding Graduate, Wuhan University.	2023
5. Luojia Role Model, Wuhan University. (Top-10/40,000)	2023
6. Pacemaker to Merit Student, Wuhan University. (Top-0.1%)	2022
7. Merit Student, Wuhan University.	2022

8. Pacemaker in Learning and Scientific Research, Wuhan University. 2022

9. Finalist in Top 10 Luojia Fengyun Student, Wuhan University. (Top-0.1%) 2022

10. Merit Student, Wuhan University. 2021

11. Social Activist, Wuhan University. 2021

12. Pacemaker in Learning and Scientific Research, Wuhan University. 2021

13. Merit Student, Wuhan University. 2020

14. Excellent Team Leader of Summer Social Practice, Hubei Committee of the Communist Youth League. 2020

15. Advanced Individual in Summer Social Practice, Wuhan University. 2020

AWARDS

1. First Prize, The 8th Planning Decision Support Model Design Contest. 2024

2. Top-10, HuMob Challenge, International Conference on Advances in Geographic Information Systems. 2023

3. Excellent Bachelor's Dissertation in Wuhan University. 2023

4. Finalist, International Mathematical Contest in Modeling. 2022

5. Top-10, AICity Challenge, IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops. 2022

6. Meritorious Winner, International Mathematical Contest in Modeling. 2021

7. First Prize, KQ Cup GIScience Competition (Software Development). 2021

8. First Prize, SuperMap Cup GIScience Competition (Software Development, Hubei). 2021

9. Second Prize, Challenge Cup Technological Innovation Competition (Hubei). 2021

10. Second Prize, National Mathematical Contest in Modeling (Hubei). 2021

11. Third Prize, SuperMap Cup GIScience Competition (Cartography, Hubei). 2021

12. First Prize, Chinese Mathematics Competition. 2020

13. First Prize, Hubei Mathematics Competition. 2020

14. Second Prize, National English Competition for College Students. 2020

15. Second Prize, Translation and Interpreting Contest (Hubei). 2020

16. First Prize, Mathematical Olympiad (Jiangsu). 2018

17. Second Prize, Chemical Olympiad (Jiangsu). 2018

18. Second Prize, Physics Olympiad (Jiangsu). 2018

19. Third Prize, Biological Olympiad (Jiangsu). 2018

20. Second Prize, Chemical Olympiad (Jiangsu). 2017

SERVICES

Service to the University

1. Undersecretary, Department of Sci-tech Practice, SRES, Wuhan University. 2019–2021

2. Undersecretary, Young Volunteers Association, SRES, Wuhan University. 2019–2021

Service to the Community

1. Reviewer, ACM SIGSPATIAL (1). 2024–Now

2. Reviewer, Big Earth Data (1). 2024–Now

3. Reviewer, Scientific Data (1). 2024–Now

4. Reviewer, Urban Informatics (4). 2024–Now

5. Reviewer, Scientific Reports (1). 2024–Now

6. Reviewer, Humanities and Social Sciences Communications (2). 2024–Now

7. Member, GIS-info Group, GISphere. 2024–Now

Skills

- **Programming:** Python, C/C++, Java, Matlab, C#, R, HTML, CSS, JavaScript.
- **Cartography & GIScience:** CorelDraw, Illustrator, Photoshop, ArcGIS, QGIS, ENVI, GEE.
- **Others:** SPSS, Blender, Unity, LaTeX, Git, SQL.

Languages

- **Chinese:** Mother tongue, native speaker.
- **English:** Fluent, CET-6:591, CET-4:621.

Hobbies

- **Game of Go:** Yon-dan.
- **Ruan:** Grade III.