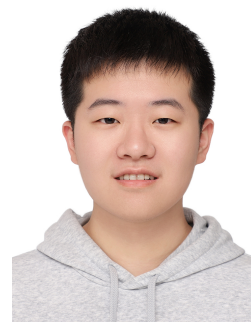


# Chenglong Wang

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## EDUCATION

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### Peking University

M.S. in Geography (Smart City and Big Data)

Shenzhen, CN

2023/09–Now

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

### Wuhan University

B.S. in Geographic Information Science, GPA: 3.98/4.00 (ranked 1<sup>st</sup>/60 in the dept.)

Wuhan, CN

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

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### Microsoft Research Asia

AI Research Intern at Social Computing Group

Beijing, CN

2024/07–Now

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

### Peking University

Team Member at SUPD-GeoAI Lab

Shenzhen, CN

2022/09–Now

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

### SenseTime Research

AI Research Intern at Fundamental Vision Group

Shanghai, CN

2022/05–2022/09

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

### Wuhan University

Undergraduate Research Intern at Intelligent Information Processing Lab

Wuhan, CN

2022/01–2022/09

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

### Wuhan University

Undergraduate Research Intern at Urbanisation Research Group

Wuhan, CN

2021/01–2021/12

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

## PUBLICATIONS

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### Peer-reviewed Journal Articles (<sup>1</sup>co-first author, \*corresponding author)

1. Zhaoya Gong<sup>1</sup>, **Chenglong Wang**<sup>1</sup>, Yuting Chen<sup>1</sup>, 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 (<sup>1</sup>co-first author, \*corresponding author)

1. **Chenglong Wang**<sup>1</sup>, Zhicheng Deng<sup>1</sup>. 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<sup>1</sup>, Wenwei Han<sup>1</sup>, **Chenglong Wang**<sup>1</sup>, 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 (<sup>1</sup>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

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1. 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.
2. 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.
3. 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.

4. 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.
5. 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.
6. Oral Presentation (2023): Multi-perspective Spatiotemporal Context-aware Neural Networks for Human Mobility Prediction. In *ACM SIGSPATIAL HuMob Challenge*, Nov. 13, 2023, Hamburg, Germany.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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

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

## HONORS

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| 1. Academic Innovation Award, Peking University.                           | 2024 |
| 2. Outstanding Graduate, Wuhan University.                                 | 2023 |
| 3. LuoJia Role Model, Wuhan University. (Top-10/40,000)                    | 2023 |
| 4. Pacemaker to Merit Student, Wuhan University. (Top-0.1%)                | 2022 |
| 5. Merit Student, Wuhan University.  | 2022 |
| 6. Pacemaker in Learning and Scientific Research, Wuhan University.        | 2022 |
| 7. Finalist in Top 10 LuoJia Fengyun Student, Wuhan University. (Top-0.1%) | 2022 |
| 8. Merit Student, Wuhan University.  | 2021 |
| 9. Social Activist, Wuhan University.                                      | 2021 |
| 10. Pacemaker in Learning and Scientific Research, Wuhan University.       | 2021 |
| 11. Merit Student, Wuhan University.                                       | 2020 |

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|---|------|
| 12. Excellent Team Leader of Summer Social Practice, Hubei Committee of the Communist Youth League. | 2020 |
| 13. Advanced Individual in Summer Social Practice, Wuhan University.                                | 2020 |

## AWARDS

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|--|------|
| 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

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### Service to the University

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|---|-----------|
| 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

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|--------------------------------------|----------|
| 1. Reviewer, ACM SIGSPATIAL (1).     | 2024–Now |
| 2. Reviewer, Scientific Data (1).    | 2024–Now |
| 3. Reviewer, Urban Informatics (4).  | 2024–Now |
| 4. Member, GIS-info Group, GISphere. | 2024–Now |

## SKILLS

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- **Programming:** Python, C/C++, Java, Matlab, C#, R, HTML, CSS, JavaScript.
- **Cartography & GIScience:** CorelDraw, Illustrator, Photoshop, ArcGIS, QGIS, ENVI, GEE.
- **Others:** SPSS, Blender, Unity, L<sup>A</sup>T<sub>E</sub>X, Git, SQL.

## LANGUAGES

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

## HOBBIES

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