

# CE HOU (ALBERT)

chouab@connect.ust.hk

## EDUCATION

<b>Hong Kong University of Science and Technology</b>	Hong Kong SAR, China
Doctor of Philosophy (PhD) in Civil Engineering	Feb 2023 – Now
• Research interest: Geospatial artificial intelligence (GeoAI); AI for SDG; urban sensing; sustainable urban development	
• Advisors: Prof. Fan Zhang and Prof. Sen Li	
<b>University College London</b>	London, United Kingdom
Master of Science	Sep 2021 – Sep 2022
• Major in Spatial Data Science and Visualization	
• Advisor: Prof. Chen Zhong	
<b>Wuhan University</b>	Wuhan, China
Bachelor of Engineering	Sep 2017 – Jun 2021
• Major in Geodesy and Geomatics Engineering	
• Advisors: Prof. Bao Zhang and Prof. Yibin Yao	

## VISITING AND RESEARCH EXPERIENCE

<b>University of California, Berkeley</b>	CA, United States
Visiting PhD student	Mar 2025 (expected) – Sep 2025 (expected)
• Advisor: Prof. Lu Liang	
<b>Peking University</b>	Beijing, China
Visiting PhD student	Feb 2024 – Now
• Advisors: Prof. Fan Zhang, Prof. Lei Dong, and Prof. Yu Liu	
<b>Tsinghua University</b>	Beijing, China
Research Assistant	Jul 2022 – Dec 2022
• Advisor: Prof. Zhu Liu	
<b>The Bartlett School of Sustainable Construction, UCL</b>	London, United Kingdom
Research Assistant	May 2022 – May 2023
• Advisors: Prof. Zhifu Mi and Dr. Haoran Zhang	

## PUBLICATIONS

### Ongoing works:

1. Ce Hou, Fan Zhang\*, Qiwei Yu. Extreme heat accelerates the process of poverty in global south countries. (In preparing)
2. Ce Hou, Fan Zhang\*, Yingjing Huang. Urban Visual Genome: Hierarchical patterns in urban visual environment (In preparing)
3. Shizhen Wang, Ce Hou\*, Yiqi Huang, Yuhong Wang, Yan Song. Consistency of Place Preference (In preparing)
4. Yidan Wang, Fan Zhang\*, Ce Hou, Yingjing Huang, Bin Chen, Filip Biljecki, Limin Zhang. Uncovering historical city connection with satellite imagery (Submitted to *Nature*)
5. Entong Ke, Ce Hou, Tianshun Gu, Quan Qin, Qinyu Cui, Haochen Shi, Yan Zhang\*, Tian Lan\*. Half-life of urban nights: An intensity- and semantics- independent measure of nighttime activity decay (Under review in *Nature Cities*)

### Journal articles:

1. Maoran Sun, Ce Hou, Qiaosi Li, Fan Zhang, Ronita Bardhan, Qunshan Zhao (2026). Deciphering Exterior: Building Energy Efficiency Prediction with Emerging Urban Big Data. *npj urban Sustainability*. <https://doi.org/10.1038/s42949-026-00348-7>

2. Qianbao Hou, **Ce Hou**, Fan Zhang, Qihao Weng (2025). Multi-source geo-localization in urban built environments for crowd-sourced images by contrastive learning. *ISPRS Journal of Photogrammetry and Remote Sensing*. <https://doi.org/10.1016/j.isprsjprs.2025.09.024>
3. Furong Jia, Lanxin Liu, **Ce Hou**, Fan Zhang\*, Xinyan Liu, Yu Liu (2025). Towards Interpretable Geo-localization: a Concept-Aware Global Image-GPS Alignment Framework. *arXiv preprint arXiv:2509.01910*.
4. **Ce Hou**, Fan Zhang\*, Yuhao Kang, Zhuangyuan Fan, Sen Li (2025). Transferring population group knowledge from multimodal large language model to small model: using urban safety perception evaluation as case study, 07 May 2025, PREPRINT (Version 1) available at Research Square [<https://doi.org/10.21203/rs.3.rs-6351052/v1>]
5. **Ce Hou**, Fan Zhang\*, Yong Li, Haifeng Li, Gengchen Mai, Yuhao Kang, Ling Yao, Wenhao Yu, Yao Yao, Song Gao, Min Chen, Yu Liu (2025). Urban Sensing in the Era of Large Language Models. *The innovation*. 6(1). DOI: <https://doi.org/10.1016/j.xinn.2024.100749>
6. **Ce Hou**, Yuhao Kang, Fan Zhang\*, Song Gao, Yong Li, Fabio Duarte, Sen Li (2024). “Transferred bias” uncovers the balance between the development of physical and socio-economic environments of cities. *Annals of the American Association of Geographers*. <https://doi.org/10.1080/24694452.2024.2412173>
7. Lei Wang, **Ce Hou**, Yecheng Zhang, Jie He\* (2024). Measuring solar radiation and spatio-temporal distribution in different street network direction through solar trajectories and street view images. *International Journal of Applied Earth Observation and Geoinformation*. <https://doi.org/10.1016/j.jag.2024.104058>
8. Piyu Ke, Xiaofan Gui, Wei Cao, Dezhi Wang, **Ce Hou**, Lixing Wang, Xuanren Song, Yun Li, Biqing Zhu, Jiang Bian, Stephen Sitch, Philippe Ciais, Pierre Friedlingstein, and Zhu Liu\* (2023). Near-real-time monitoring of global ocean carbon sink. *arXiv preprint arXiv:2312.01637*, 2023.
9. Yikang Wang, Yuhao Kang, Haokun Liu, **Ce Hou**, Bing Zhou, Shan Ye, Yuyan Liu, Jinmeng Rao, Zhenghao Pei, Xiang Ye, Song Gao (2023). Choosing GIS graduate programs from afar: Chinese students’ perspectives. *Transactions in GIS*. DOI: <https://doi.org/10.1111/tgis.13037>

#### **Book chapter:**

1. **Ce Hou**, Yong Li, Fan Zhang\* (2024). Sensing Urban Physical Environment with GeoAI and Street-Level Imagery. *Handbook of Geospatial Approaches to Sustainable Cities*.

#### HONORS

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| • Overseas Research Award   | 2025 |
| • Best Poster Award, the 2nd Research Summit of Urban Science and Human Dynamics              | 2024 |
| • Creativity Award, Research Summit of Urban Science and Human Dynamics                       | 2023 |
| • Bezos/Musk Prize for Entrepreneurial Potential in Knight Frank Dubai Housing Data Hackathon | 2022 |
| • Excellent undergraduate graduation design, Wuhan University                                 | 2021 |
| • Distinct Graduate Student, Wuhan University   | 2021 |
| • Distinct Student, Wuhan University  | 2021 |
| • Li Qinghai Scholarship for Outstanding Students in Geomatics                                | 2021 |
| • First Class Scholarship, Wuhan University   | 2021 |
| • Distinct Student, Wuhan University  | 2020 |
| • Outstanding student leaders   | 2020 |
| • Second Class Scholarship, Wuhan University  | 2020 |
| • Social activist Student, Wuhan University   | 2020 |
| • Merit Student, Wuhan University   | 2019 |

#### INVITED TALKS

- “Transferred bias” uncovers the balance between the development of physical and socio-economic environments of cities  
 Wuhan, China  
 Invited talk Mar 2025

Invited talk at the School of Public Administration, China University of Geosciences (Wuhan)

#### GRANTS

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- **Co-Investigator**, Research on the Modernization Path of Street Ecological Governance from a Human-Computer Collaboration Perspective, funded by the *Youth Fund Project of Humanities and Social Sciences, Ministry of Education*, ¥80,000 Jun 2025 – Jun 2028

#### TEACHING EXPERIENCE

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**Geospatial Science & Technology for Smart City (CIVL4100U)** Hong Kong SAR, China  
Teaching assistant 2023-24 Fall

**Introduction to Smart City Economics (CIVL4640)** Hong Kong SAR, China  
Teaching assistant 2024-25 Spring

#### COMMUNITY SERVICES

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**The Chinese Professional in Geographic Information Systems** Online  
BOD student member Jan 2026 – Now  
Managing the .

**GISphere** Online  
Co-chair Mar 2022 – Mar 2024  
Participate in organizing online seminars (GISalon) and people interview section (GIStory), assisting in managing the official WeChat account and publishing tweets.

**The Chinese Professional in Geographic Information Systems** Online  
Volunteer Dec 2021 – Now  
Assist in managing the official WeChat account and publishing tweets.

#### Journal reviews:

*Computer, Environment and Urban System; International journal of Geographical Information Science; Scientific Data; Humanity and Social Science Communications; Information Geography; Scientific Reports; Journal of Urban Technology; Journal of Asian Architecture and Building Engineering; Computational Urban Science*