

Han Wang

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HKUST, Clear Water Bay Road, Sai Kung, NT, Hong Kong

Education

The Hong Kong University of Science and Technology (HKUST), Hong Kong

2021–2025

Ph.D. in Civil and Environmental Engineering (Advisor: Prof. Jiachuan Yang)

Hohai University (HHU), Nanjing, China

2017–2021

B.Sc. in Environmental Science

Experience

The Hong Kong University of Science and Technology (HKUST), Hong Kong

2025–present

Postdoctoral Fellow, Civil and Environmental Engineering (Advisor: Prof. Hui Su)

Interests

Scientific Machine Learning; Urban Hydrometeorology and Climatology; Spatiotemporal Prediction; Regional and Urban Climate Modeling; Extreme Events.

Publications

1. Wang, H., & Yang, J. (2025). Skillful Urban Air Temperature Forecast System with Multimodal Deep Learning Framework. In preparation.
2. Wang, H., & Yang, J. (2025). Leveraging atmospheric information across scales for local temperature forecasting using a novel multi-scale perception network. Under review.
3. Wang, H., Tang, J., Zhang, J., & Yang, J. (2026). Intra-city scale graph neural networks enhance short-term air temperature forecasting. *Atmospheric Chemistry and Physics*, 26(2), 947–961.
4. Wang, H., Zhang, J., & Yang, J. (2024). Time-series forecasting of pedestrian-level urban air temperature by LSTM: Guidance for practitioners. *Urban Climate*, 56, 102063.
5. Chen, X., Wang, H., & Yang, J. (2024). Effect of green blue spaces on the urban thermal environment: A field study in Hong Kong. *Urban Climate*, 55, 101912.
6. Wang, H., Yang, J., Chen, G., Ren, C., & Zhang, J. (2023). Machine learning applications on air temperature prediction in the urban canopy layer: A critical review of 2011–2022. *Urban Climate*, 49, 101499.

Presentations and Conferences

- Wang, H., Yang, J. *Multimodal Deep Learning Framework for Urban Air Temperature Forecasting: Bridging Local and Synoptic Scales* (Oral), EGU2025 CL5.9, Vienna, Austria, May 2025.
- Wang, H., Yang, J. *Skillful Urban Air Temperature Forecast System with Multimodal Deep Learning Framework* (Poster), AGU2024 GC41I-0061, Washington, D.C., USA, Nov 2024.
- Wang, H., Yang, J. *Enhancing Urban Air Temperature Forecast with City-scale Graph Neural Networks* (Oral), AOGS2024 AS91-A015, Pyeongchang-gun, South Korea, Jun 2024.
- Wang, H., Zhang, J., Yang, J. *Time-series forecasting of urban air temperature by LSTM: Implications for practitioners* (Oral), ICUC 11th, Sydney, Australia, Aug 2023.
- Wang, H., Yang, J. *Machine Learning on Canopy Layer Air Temperature Prediction: Status and Baseline* (Keynote), The 9th National Urban Meteorology Conference, Xiongan, China, May 2023.

Honors and Awards

- RedBird Academic Excellence Award, HKUST (2025)
- Travel Grant, The Abdus Salam International Centre for Theoretical Physics (2025)
- Research Travel Grant, HKUST (2023, 2024, 2025)
- Outstanding Undergraduate Final Thesis, HHU (2021)
- Excellent Student of HHU (2021)
- Scholarship for Academic Excellence and Academic Progress, HHU (2019, 2020, 2021)
- Scholarship for International Exchange (UK), HHU (2018)

Teaching

Graduate Teaching Assistant, HKUST

- CIVL 4910 Undergraduate Final Year Project (2021–2025)
- CIVL 2510 Fluid Mechanics
- CIVL 2910 Fundamental of Green Buildings
- CIVL 4480 Climate Modeling and Risk Assessment

Professional Services

Reviewer: *Environmental Research Letters; Geophysical Research Letters (GRL); Sustainable Cities and Society; Urban Climate; Advances in Atmospheric Sciences; Meteorological Applications*

Professional Membership

- European Geosciences Union (EGU), member since 2025
- American Geophysical Union (AGU), member since 2024
- International Association for Urban Climate (IAUC), member since 2023

Skills

Languages: English (fluent), Chinese (native)

Programming: Python (PyTorch), MATLAB (Urban Canopy Model)

Extracurricular Activities

- Tutor for Undergraduate Students, Hall 1, HKUST (2023–2025)
- Vice President, Volunteer Teaching Association (Zhihe), HHU (2019–2020)
- Campus Ambassador, Teach for China, Lead Foundation (2018–2020)

Referees

- Prof. Hui Su (Postdoc. Advisor), Chair Professor, HKUST, cehsui@ust.hk
- Prof. Jiachuan Yang (Ph.D. Advisor), Associate Professor, HKUST,cejcyang@ust.hk
- Prof. Jize Zhang (Collaborator), Assistant Professor, HKUST, cejize@ust.hk