Yilong Wu

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RESEARCH INTERESTS

GeoAI and Spatial Modeling; Multimodal Spatial Representation; Spatial Intelligence for Infrastructure.

EDUCATION

Curtin University Dec 2025 - Present

- **PhD Candidate in Construction Management (fully funded)**
- **Supervisor:** Dr. Yongze Song

Fujian Normal University Sep 2020 - Jun 2024

- **Bachelor of Geographic Information Science(GIS)**
- **GPA:** 3.67 / 5 (Ranked **1st** in Cohort)
- **Honors & Awards:** Excellent Intern Award; Excellent Undergraduate Thesis; Excellent Graduate Award

Feng Chia University Sep 2022 - Jun 2023

- Fujian-Taiwan Cooperation Project.
- **GPA:** 4.53 / 5 (Ranked **1st** in Cohort)

PUBLICATIONS

Published articles

2026

• [1] Wang, X., **Wu, Y**.**(co-first author)**, Shi, T., Zhang, R., Chen, Y., & Song, Y. **(2026)**. Explainable second-dimension spatial association between park sentiment and built-social environments. **Cities**, 174, 107068. https://doi.org/10.1016/j.cities.2026.107068

• [2] Luo, P., **Wu, Y.**, & Song, Y. **(2026)**. Focal-feature regression kriging. **Geographical Analysis**, 58(2), e70035. https://doi.org/10.1111/gean.70035

• [3] Liu, H., Song, Y., Zhang, P., Ren, K., & **Wu, Y. (2026)**. Generalised spatial error for validation. **GIScience & Remote Sensing**, 63(1), 2690327. https://doi.org/10.1080/15481603.2026.2690327

2025

• [4] Qin, X., **Wu, Y**., Huang, H., Yang, X., & Gao, L. **(2025)**. Impact of impervious surface spatial morphologies on urban waterlogging: Insights from a cascade modeling chain at catchment scale. **Sustainable Cities and Society**, 134, 106912. https://doi.org/10.1016/j.scs.2025.106912

• [5] **Wu, Y**., Yu, S., Chen, Y., Liu, X., & Cui, Z. **(2025)**. Risk assessment of waterlogging by fusing multi-source heterogeneous big data in Tong'an. **Geomatics & Spatial Information Technology**, 48(4), 70–73.

2023

• [6] **Wu, Y.**, Chen, Y., Zhang, R., Cui, Z., Liu, X., Zhang, J., Wang, M., & Wu, Y. **(2023)**. A spatial information extraction method based on multi-modal social media data: A case study on urban inundation. **ISPRS International Journal of Geo-Information**, 12(9), 368. https://doi.org/10.3390/ijgi12090368

• [7] Qin, X., **Wu, Y.**, Lin, T., & Gao, L. **(2023)**. Urban flood dynamic risk assessment based on typhoon rainfall process: A case study of Typhoon "Lupit" (2109) in Fuzhou, China. **Remote Sensing**, 15(12), 3116. https://doi.org/10.3390/rs15123116

Manuscripts under consideration

- **Spatial information use in large language model prediction**
  Wu, Y.
  International Journal of Digital Earth (Under Review)
- **Simple second-dimension learning for efficient spatial prediction**
  Wu, Y., Chen, Y., Cui, Z., Huang, X., Qin, X., & Song, Y.
  International Journal of Geographical Information Science (Ready to Revise)

WORK AND INTERNSHIP EXPERIENCE

Main Roads Western Australia Sep 2025 - Mar 2026

Research Assistant

- Acquired and processed approximately 1.66 million Street View images across Western Australia, using vegetation segmentation to extract Green View Index (GVI) and produce quantitative roadside vegetation data for research on road environments.
- Built an integrated vegetation–pavement dataset of approximately 158,000 records, spatially linking street-view GVI, satellite NDVI and Main Roads pavement-performance indicators through 10 m road segments for analysis across data sources.
- Analysed vegetation–pavement distress associations and developed interactive statewide maps for exploring spatial patterns in road indicators, alongside road-section comparison tools linking indicator profiles, survey-video frames and Street View imagery by road chainage.

Fujian Provincial Coalfield Geology Bureau, China Nov 2023 - Jan 2024

Data Processing Engineer

- Conducted 1:10,000 scale geological disaster risk survey, assessment mapping, and corresponding data processing in Fuqing City.
- Participated in the "Two Reservoirs Connection" project for Fujian Province, conducting comparison and verification.

Provincial Institute of Emergency Management Research, China Dec 2023

Data Processing Engineer (Remote Internship)

- Built an integrated urban flood risk assessment workflow using ModelBuilder and trained technical staff in its use.

GeoScene Information Technology Co., Ltd., China Mar 2023 - Jun 2023

Campus Ambassador, Marketing Department

- Prepared competition publicity materials, answered student enquiries and supported campus promotion, earning the Outstanding Campus Ambassador Award.

TEACHING EXPERIENCE

Curtin University Semester 2, 2026

Teaching Assistant / Tutor

BLDG1001 High-Rise Construction

- Plan and deliver tutorials, prepare materials, support exercises, and mark assessments with rubric-based feedback.

SELECTED PRESENTATIONS

Main Roads Western Australia 21 Sep 2026

Workshop: project summary presentation and discussion of subsequent validation across regions.

Central South University 4 Jun 2026

Research presentation and exchange, School of Geosciences and Info-Physics, China.

Topics: Explainable second-dimension spatial association (ESDA); focal-feature regression kriging (FFRK).

ACADEMIC SERVICE

Member, Young PhD Editorial Team, *Big Earth Data* (IF: 3.6)

City+ Conference Committee **Youth Member**

Peer Reviewer: *JAG* (IF: 8.2); *GISci. Remote Sens.* (IF: 6.8); *Big Earth Data* (IF: 3.6); *TGIS* (IF: 2.4); *J. Spatial Sci.* (IF: 2.2)

Member, GISphere GIStory; interview outline development and coordination.

SELECTED AWARDS AND HONOURS

Geographic Big Data and Spatial Intelligence Summer School — Excellent Report and Excellent Student 2024
National Engineering Research Center for GIS Campus Open Day — Outstanding Camper 2023
Academic Scholarships, Feng Chia University — ranked 1st in cohort 2023
Outstanding Scholarship, Fujian Normal University — top 1% 2022 & 2023
ESRI Cup Chinese University GIS Software Development Competition — First Prize (first author) 2022