Yi-Wen Mo

Ph.D. Student, School of Geographical Sciences and Urban Planning, Arizona State University

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Education

Arizona State University (ASU) — **Aug. 2026 – Present**
Ph.D. in Geographic Information Science — **Tempe, AZ**
- Advisor: Dr. Wenwen Li

National Taiwan University (NTU) — **Sep. 2021 – Jun. 2023**
M.S. in Civil Engineering (Surveying and Geospatial Engineering) — **Taipei, Taiwan**
- GPA: 4.08/4.3
- Thesis: *Estimation of Solar Radiation Based on Machine Learning Techniques and Multivariate Data*

National Taipei University (NTPU) — **Sep. 2017 – Jun. 2021**
B.A. in Real Estate and Built Environment — **New Taipei, Taiwan**
- GPA: 3.92/4.0

Research Experience

School of Geographical Sciences and Urban Planning, ASU — **Aug. 2026 – Present**
Graduate Research Assistant — **Tempe, AZ**
- Building interactive health data visualizations and integrating modules into a research web application

Center for GIS, RCHSS, Academia Sinica — **Aug. 2023 – Mar. 2026**
Research Assistant — **Taipei, Taiwan**
- **Arcade Detection from Street View Imagery** (NSTC-funded)
  - Developed a Graph Convolutional Network framework with bi-directed scene graphs for automated arcade detection, enabling cross-city generalization
  - Processed 2,050 street view images with 3,669 annotated arcades; reduced detection errors by 80% versus YOLOv5 and validated transferability across 8 cities in Southeast Asia and Europe
  - First-author paper published in *Remote Sensing Applications: Society and Environment*
- **Pedestrian Network Mapping and Accessibility Analysis** (NSTC-funded)
  - Built a graph-based framework integrating multi-source data to reconstruct missing pedestrian paths; achieved F1-score of 0.78 in cross-city validation (trained on Taipei; validated on Kaohsiung, Taichung, and Miaoli)
  - Applied GCNs and Multi-Layer Perceptrons to predict pedestrian availability
- Mentored junior research interns on reproducible, version-controlled geospatial workflows

Publications

Journal Article

1. **Mo, Y.-W.**, Kuo, C.-L., & Lin, Z.-S. (2025). Enhancing arcade detection using bi-directed scene graphs with graph convolutional networks on street view imagery. *Remote Sensing Applications: Society and Environment*, 39, 101628. doi:10.1016/j.rsase.2025.101628

Conference Presentations

2. **Mo, Y.-W.**, & Li, W. (2027, February). Where do GeoAI agents fail? Understanding versus memorization in suppressed public health data. *2027 AAG Annual Meeting*, New York, NY. (Accepted abstract)

3. **Mo, Y.-W.**, & Kuo, C.-L. (2025, August). Cross-city pedestrian network construction using graph convolutional network and multi-layer perceptron. *43rd Conference on Surveying and Geomatics*, Yilan, Taiwan. (Abstract)
4. **Mo, Y.-W.**, & Kuo, C.-L. (2025, May). Integrating multi-source data to construct complete pedestrian networks. *19th International Conference on Location-Based Services (LBS 2025)*, Espoo, Finland. doi:10.5281/zenodo.15350935
5. **Mo, Y.-W.**, Lin, Z.-S., & Kuo, C.-L. (2024, July). Arcade detection based on object spatial relationships and graph neural networks. *Taiwan Geographic Information Society Annual Conference*, Taipei, Taiwan. (Long abstract)
6. **Mo, Y.-W.**, & Han, J.-Y. (2023, August–September). Estimating solar radiation using machine learning and multivariate data. *41st Conference on Surveying and Geomatics*, Hsinchu, Taiwan. (Long paper)
7. **Mo, Y.-W.**, & Han, J.-Y. (2022, September). Establishing solar radiation models using machine learning. *40th Conference on Surveying and Geomatics*, Taichung, Taiwan. (Abstract)

Honors and Awards

- University Graduate Fellowship, Arizona State University (2026–2027)
- Dean's Award, College of Engineering, NTU (2023), top 5% of graduating class
- Third Place, BiMAP × NTU Hackathon (2022)
- Scholarship for Outstanding Graduate Student, NTU (2021–2022)
- Outstanding Student Award, NTPU (2019)
- Dean's List, NTPU (Fall 2018, Spring 2019, Fall 2019), top 10% of class

Teaching Experience

National Taiwan University **Fall 2021 and Fall 2022**
Teaching Assistant, Surveying **Taipei, Taiwan**
- Graded assignments, proctored exams, and managed grades for 50+ international undergraduates

National Taipei University **Sep. 2020 – Jan. 2021**
Teaching Assistant, Cadastral Survey **New Taipei, Taiwan**
- Supervised field survey activities for 60+ undergraduates

Service and Leadership

- Session emcee, Academia Sinica Geospatial Forum (2025) and Taiwan Geographic Information Society Annual Conference (2024)
- Vice President, Land Administration Service Association, NTPU (2018–2021): led rural outreach, community discussions, and land-rights education across four regions of Taiwan

Skills

- Languages Mandarin (native), English (fluent)
- Technical Python, PyTorch, PyTorch Geometric, Docker, Linux, ArcGIS Pro, C++