

Xiang Li

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PERSONAL STATEMENT

Ph.D. Candidate researching human mobility and migration under natural disasters and climate change. Uses spatial analyses, machine learning and AI models to examine short-term evacuation and long-term migration dynamics.

EDUCATION

University of South Florida | Tampa, FL, United States

Ph.D., Geography and Environmental Science and Policy | August 2026 (Expected)

Northwest University | Xi'an, China

M.S., Cartography and Geographic Information Science | 2021

Northwest University | Xi'an, China

B.S., Physical Geography | 2018

TEACHING AND RESEARCH APPOINTMENTS

Graduate Teaching Associate, School of Geosciences, University of South Florida | 2025-2026

- **Instructor of Record:** GEO 3164 Research Methods in Geography (Fall 2025, Spring 2026).
 - Designed lecture materials, delivered full class sessions, held office hours, and developed assignments and exam questions.
 - Added a group-based research project to the existing course plan, guiding students from brainstorming and research-question development to proposal writing, exploratory analysis, group presentation, and a final research paper.
 - Supported students in developing research design, spatial analysis, data interpretation, academic writing, and presentation skills.
- **Instructor of Record:** GEO 4933 Geography Colloquium and EVR 4921 Environmental Science and Policy Seminar (Summer 2025).
 - Managed course delivery based on existing syllabi, assigned weekly learning materials and coursework, and communicated course expectations and deadlines to students.
 - Provided student support through email and Teams Q&A, including guidance on assignments, course content, and academic progress.

Graduate Teaching Assistant, School of Geosciences, University of South Florida | 2023-2025

- Teaching Assistant: GEO 3164 Research Methods in Geography (Fall 2023 to Spring 2025).

- Assisted students during class with software, technical, and workflow-related questions.
- Graded assignments, held office hours, and provided feedback on research methods, data analysis, and course exercises.

Graduate Research Assistant, School of Geosciences, University of South Florida | 2022-2023

- Participated in "SEACAR Monitoring Programs".
 - Developed Python-based statistical workflows to analyze temporal and spatial patterns of water quality across five Florida nature preserves.
- Participated in NSF Project "Collaborative Research: HNDS-I: A Cyberinfrastructure for Multiscale Human Dynamics and Resilience (HDR) Research".
 - Detected and modeled hurricane evacuation from mobile phone tracking data.
 - Studied the association of long-term migration association with disasters.

Research Assistant, Department of Geography and Environment, Northwest University, China | 2021-2022

- Managed and updated glacier attribute databases to support cryosphere research.
- Developed automated glacier snowline detection models using Google Earth Engine and remote sensing data.

PUBLICATIONS

Under Review

- Tang, Y., **Li, X.**, Huang, X., Zheng, S., Wang, S. Smartphone Mobility Data Reveals How Home-Location Heat and Park Cooling Shape Park Visitation in Los Angeles.
- **Li, X.**, Qiang, Y. Beyond Mobility Volume: Disaster-Related Selective Migration across U.S. Regions from 2012-2021.

Peer-Reviewed Journal Articles

- **Li, X.**, Qiang, Y., Huang, X., Zou, L., Cai, H. (2026). Natural Disasters and Human Migration in the United States: Insights from Automated Machine Learning and Explainable AI. *Journal of Environmental Management*, 406, 129796. doi.org/10.1016/j.jenvman.2026.129796
- Li, W., Wu, X., Meng, Z., **Li, X.**, Song, W., Zhao, P. (2026). Pervasive seasonal divergence in lagged responses of vegetation growth to compound drought-heat stress on the Tibetan Plateau. *Frontiers in Plant Science*, 17, 1879954.
- Zhang, Z., Xiong, J., **Li, X.**, Li, Y., Liu, J. (2025). A SAR-Based Flood Mapping Approach: Application of SAR-SIFT Registration and Modified DeepLabV3 Segmentation in Flood Hazard Assessment. *Geocarto International*, 40(1), 2512188. doi.org/10.1080/10106049.2025.2512188

- Han, L., Qiang, Y., Ma, C., **Li, X.**, et al., Jin, H. (2025). Spatial Pattern and Socioeconomic Factors of 2022 Monkeypox Outbreak in the United States. *The Professional Geographer*, 1-12. doi.org/10.1080/00330124.2025.2474445
- **Li, X.**, Qiang, Y., & Cervone, G. (2024). Using human mobility data to detect evacuation patterns in Hurricane Ian. *Annals of GIS*, 30(4), 493-511. doi.org/10.1080/19475683.2024.2341703 (Featured in journal cover)
- **Li, X.**, Wang, N., & Wu, Y. (2022). Automated Glacier Snow Line Altitude Calculation Method Using Landsat Series Images in the Google Earth Engine Platform. *Remote Sensing*, 14(10), 2377. doi.org/10.3390/rs14102377
- **Li, X.**, Zhang, S., Liang, Q. (2020). Experiment on 3D Reconstruction of Small Four-rotor UAV Series Images. *Remote Sensing Information*, 2020(1), 135-141. (In Chinese)
- Zhang, W., Wang, N., **Li, X.**, Liu, K. (2019). Glacier Changes and Its Response to Climate Change in the Gilgit River Basin, Western Karakorum Mountains over the Past 20 Years. *Mountain Research*, 2019(3), 347-358.
- Deng, S., Zhang, Z., **Li, X.**, Wu, Q., Zhang, S. (2019). Detection water supply pipeline in old urban communities by integrated interior work and field work. *Progress in Geophysics*, 34(5), 1996-2001.

Book Chapter

- **Li, X.**, Qiang, Y. (2025). Natural Disasters and Urban Human Mobility. In *Urban Human Mobility*. CRC Press, pp. 40-50.

PRESENTATIONS

- **Li, X.**, Qiang, Y. (2026). Who Moves After Disasters? Selective Migration Evidence from U.S. County to County Flows. *Annual Meeting of the Association of American Geographers*, San Francisco, CA, USA.
- Qiang, Y., **Li, X.** (2025). Using Machine Learning and Explainable AI to Model Disaster Effects on Human Migration in the United States. *International Cartographic Association (ICA) Conference*, Vancouver, Canada.
- **Li, X.**, Qiang, Y. (2025). Natural Disasters and Human Migration in the United States: Insights from Automated Machine Learning and Explainable AI. *USF GIS Day*, Tampa, FL, USA.
- **Li, X.**, Qiang, Y. (2025). Associations of Human Migration and Natural Disasters in the United States from 2000-2020. *Annual Meeting of the Association of American Geographers*, Detroit, MI, USA.
- **Li, X.**, Qiang, Y. (2024). Unveiling Spatio-Temporal Changes of Human Migration and Networks in Natural Disasters and Climate Change. *Annual Meeting of the Association of American Geographers*, Honolulu, HI, USA.

- **Li, X.**, Qiang, Y. (2023). Using Human Mobility Data to Detect Evacuation Patterns in Hurricane Ian. *Annual Meeting of the Association of American Geographers*, Denver, CO, USA.
- **Li, X.**, Qiang, Y. (2023). Using Human Mobility Data to Detect Evacuation Patterns in Hurricane Ian. *USF GIS Day*, Tampa, FL, USA.
- **Li, X.**, Wang, N., Li, Z. (2020). Monitoring the glacier changes since the early 1970s, eastern Pamir, China. *Northwest University Graduate Academic Activity*, Xi'an, China. (Second Prize)
- **Li, X.**, Zhang, S. (2019). Experiment on 3D Reconstruction of UAV Series Images on Glacier. *Northwest University Graduate Academic Activity*, Xi'an, China. (Third Prize)

ORGANIZED SESSIONS

- Organizer, Symposium on Human Dynamics Research: Disaster-Related Human Mobility and Migration. Annual Meeting of the Association of American Geographers, San Francisco, CA, 2026.
- Organizer, Symposium on Community Resilience Research: Big Data Analytics for Climate-Induced Human Mobility and Migration. Annual Meeting of the Association of American Geographers, Denver, CO, 2023.
- Co-Organizer, USF GIS-Day Event. Tampa, FL, 2023.
- Conference Affair Group, Co-Organizer, Session of Remote Sensing on Detecting Snowline and Glacier Mass Balance. Xi'an, Shaanxi, China, 2020.

HONORS AND AWARDS

- 2026 USF Doctoral Dissertation Completion Fellowship (\$10000).
- 2026 USF CPGP Travel Grant (\$500).
- 2025 USF CPGP Travel Grant (\$500).
- 2022 USF Graduate Fellowship, University of South Florida (\$8800).
- 2021 Outstanding Master Graduates in Department of Geography and Environment, Northwest University, China (\$100).
- 2018 Outstanding Bachelor Graduates in Northwest University, China (\$700).
- 2018 National Undergraduate Scholarship, China (\$3000).
- 2018 National Undergraduate Innovation and Entrepreneurship Project, Project Leader (\$2000).
- 2017 Challenge Cup National College Student Business Plan Competition, Project Leader; Third Prize in Shaanxi Province and First Prize at Northwest University (\$2000).
- 2017 Students' Internet+ Innovation Entrepreneurship Competition, Project Leader; Third Prize in Shaanxi Province and Second Prize at Northwest University (\$700).

PROFESSIONAL MEMBERSHIPS

- Association of American Geographers (AAG), Student Member, 2022-Present.
- Chinese Professionals in Geographic Information Sciences (CPGIS), Student Member, 2024-Present.
- Cartography and Geographic Information Society (CaGIS), Student Member, 2026-Present.
- GISphere, Member, 2025-Present.
- Phi Kappa Phi, 2023-2025.
- GIS Club at the University of South Florida, President, 2024-2026; Vice President, 2022-2024.

SERVICE

- President, GIS Club at the University of South Florida, 2024.
- Student Assistant, AAG Annual Meeting, 2024.
- Student member, hiring committee for Visiting Assistant Professor position, Geography and Environmental Science and Policy, University of South Florida, 2023.
- Student Assistant, AAG Annual Meeting, 2023.
- Vice President, GIS Club at the University of South Florida, 2023.
- Member, conference affairs group, Symposium on Remote Sensing of Snow Cover, 2020.
- Field surveyor, Water Supply Pipelines project, Northwest University, China, 2019.
- Assistant, Northwest University Graduate Academic Activity Month, 2019.
- Assistant, China Geography Annual Conference, 2018.

TECHNICAL SKILLS

- Programming: Python, R, SQL, JavaScript.
- Spatial and GIS: ArcGIS Pro, Google Earth Engine, ENVI.
- Methods: spatial interaction modeling, statistical analysis, machine learning, explainable AI, mobility-data analytics, remote-sensing image analysis.