

## Some stuff about me

- I am passionate about **developing innovative spatial analysis methods** that **leverage spatial relationships**, such as *spatial dependence*, *spatial heterogeneity*, and *geographical similarity*, to advance *urban sustainability* and *climate change mitigation* efforts.
- I am proficient in *data analysis*, *statistical modeling*, and developing *R packages*, as well as open-source analytical software using **R**, **C++**, and **Python**.
- I have experience implementing complex statistical algorithms in **C++** and can efficiently integrate **torch** for machine learning applications.

## Education

2021-2025 **BSc In Geographic Information Science**, *Shaanxi Normal University*, Xi'an, Shaanxi.

## Publications

1. Lv, W., Liu, F., Cai, K., Cao, Y., Deng, M., Liang, W., Yan, J., & Wang, G. (2024). Distinguishing the impacts and gradient effects of climate change and human activities on vegetation cover in the weihe river basin, china. *Journal of Geophysical Research: Biogeosciences*, 129(10). <https://doi.org/10.1029/2024jg008297>
2. Song, Z., Liu, F., Lv, W., & Yan, J. (2023). Classification of urban agricultural functional regions and their carbon effects at the county level in the pearl river delta, china. *Agriculture*, 13(9). <https://doi.org/10.3390/agriculture13091734>
3. Song, Z., Liu, F., & Lv, W. (2023). *Spatiotemporal characteristics and optimization strategies of urban-rural development disparities in china's urban agglomerations(in chinese)* (pp. 1418–1429). People's Cities, Empowered by Planning - Proceedings of the 2023 China Urban Planning Annual Conference (14 Regional Planning; Urban Economy). <https://link.cnki.net/doi/10.26914/c.cnkihy.2023.061565>

## Honor

- 2023.12 **Grand Prize in the 12th National University Student GIS Application Skills Competition.**
- 2023.11 **First Prize in the Second National University Student Ecological Environment Management Research Innovation Competition.**

Xi'an, Shaanxi

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- 2023.12 **Second Prize of the 5th 'Guodi Cup' National College Student Natural Resource Science and Technology Competition, China Society of Natural Resources.**
- 2021.10 **Outstanding Individual in Military Training Publicity for College Students, Shaanxi Normal University.**
- 2024.06 **National University Student Innovation and Entrepreneurship Training Program Qualified Completion.**

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## Unpublished

- First Author **gdverse: An R package for spatial stratified heterogeneity family, Submitting to TGIS.**
- First Author **On the role of explicit spatial information in stratified heterogeneity, In writing.**
- First Author **A correlation indicator based on spatial patterns, In writing.**
- First Author **Geocomplexity Mitigates Spatial Bias, In writing.**

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## In research

- Leader **Extract Urban Spatial Boundaries in Xi'an City Using Deep Learning,** Utilized advanced spatial sampling methods and unsupervised algorithms to automatically generate sample sets. Employed geographically weighted neural networks combined with logistic regression to extract urban spatial boundaries.

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