

**Curriculum Vitae**  
**Xin (Selena) Feng**

**Contact Details**

Department of Geography and Environmental Sustainability  
University of Oklahoma, Norman, OK 73019, USA  
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**Teaching and Research Interests**

Geographic information science; spatial optimization; GeoAI; urban, regional, and natural resource planning and development; severe weather observation; emergency response; infrastructure and transportation systems.

**Education**

Ph.D., Geography (Spatial Analysis and Modeling) University of California, Santa Barbara, USA	2019
M.A., Geographical Sciences and Urban Planning Arizona State University, USA	2015
M.S., Remote Sensing & GIS Peking University, China	2013
B.S., Cartography and Geographical Information System Wuhan University, China	2010

**Academic Appointments**

2021-present	Tenure Track Assistant Professor, Department of Geography and Environmental Sustainability, University of Oklahoma
2020-2021	Postdoctoral Scholar, Center of Geospatial Sciences, University of California, Riverside
2016-2019	Research Assistant and Lab Lecturer, Department of Geography, University of California, Santa Barbara
2013-2015	Research Assistant and Teaching Assistant, School of Geographical Sciences and Urban Planning, Arizona State University

**Publications**

*Refereed Articles and Proceedings (My Students; \*\*corresponding author)*

- 2025 R. Wei, **X. Feng**, S. Rey. “Delineating school attendance boundaries to improve diversity and community integrity.” *Environment and Planning B: Urban Analytics and City Science*, 23998083251389075. <https://doi.org/10.1177/23998083251389075>.
- 2025 **X. Feng**, Y. Cao. “Enhancing accessibility of regionalization techniques through large language models: A case study in conversational agent guidance.” *International Journal of Geographical Information Science*, 1–24. <https://doi.org/10.1080/13658816.2024.2415439>.

- 2025 **B. Parajuli, X. Feng.** “Deployment optimization of a mobile weather radar: A cover-based single facility location problem in a constrained continuous space.” *Remote Sensing*, 17(5), 870. <https://doi.org/10.3390/rs17050870>.
- 2024 **M. S. Parvez, X. Feng.** “Generic method for social–environmental system boundary delineation—An amalgamation of spatial data integration, optimization, and user control for resource management.” *ISPRS International Journal of Geo-Information*, 13(12), 447. <https://doi.org/10.3390/ijgi13120447>.
- 2024 **X. Feng, D. Schwartzman, B. Parajuli, X. Wang.** “Enhancing meteorological mobile radar observations through deployment location optimization.” *IEEE Transactions on Geoscience and Remote Sensing*, 62, 1-11. <https://doi.org/10.1109/TGRS.2024.3447550>.
- 2024 **X. Feng, J. Koch.** “Combining vector and raster data in regionalization: A unified framework for delineating spatial unit boundaries for socio-environmental systems analyses.” *International Journal of Applied Earth Observation and Geoinformation*, 128, 103745. <https://doi.org/10.1016/j.jag.2024.103745>.
- 2023 **X. Feng.** “Multiplant location involving resource allocation.” *Geographical Analysis*, 56(1), 97-117. <https://doi.org/10.1111/gean.12366>.
- 2023 **Y. Zhu, S. W. Myint, X. Feng\*\*, & Y. Li.** “An innovative scheme to confront the trade-off between water conservation and heat alleviation with environmental justice for urban sustainability: the case of Phoenix, Arizona.” *AGU Advances*, 4(1), e2022AV000816. (This paper was selected for featuring as an Editor’s Highlight, which was published on Eos.org)
- 2022 **R. Wei, X. Feng, S. Rey, & E. Knaap.** “Reducing racial segregation of public school districts.” *Socio-Economic Planning Sciences*, 84, 101415. <https://doi.org/10.1016/j.seps.2022.101415>.
- 2022 **X. Feng, G. Barcelos, J. D. Gaboardi, E. Knaap, R. Wei, L.J. Wolf, ... & S. J. Rey.** “Spot: a Python package for solving spatial optimization problems in PySAL.” *Journal of Open Source Software*, 7(74), 3330. <https://doi.org/10.21105/joss.03330>.
- 2022 **X. Feng, S. Rey, & R. Wei.** “The max-p-compact-regions problem.” *Transactions in GIS*, 26(2), 717-734. <https://doi.org/10.1111/tgis.12874>.
- 2021 **X. Feng, A. Murray, R. Church.** “Drone service response: Spatiotemporal heterogeneity implications.” *Journal of Transport Geography* 93, 103074. <https://doi.org/10.1016/j.jtrangeo.2021.103074>.
- 2021 **X. Feng, S. Wang, A. Murray, Y. Cao, S. Gao.** “MOTO: A multi-objective trajectory optimization method for finding sequential activity locations over space and time.” *Environment and Planning B-Urban Analytics and City Science*, 48(4), 945-963. <https://doi.org/10.1177/2399808320913300>
- 2020 **X. Feng, A. Murray.** “Spatiotemporal heterogeneous allocation to support service area response.” *Computers, Environment, and Urban Systems*, 82, 101503. <https://doi.org/10.1016/j.compenvurbsys.2020.101503>
- 2020 **A. Murray, R. Church, X. Feng.** “Single facility siting involving allocation decisions.” *European Journal of Operational Research*, 284 (3), 834-846.
- 2018 **X. Feng, A. Murray.** “Allocation using a heterogeneous space voronoi diagram.” *Journal of Geographical Systems*, 20(3), 207-226.
- 2018 **A. Murray, X. Feng, Ali Shokoufandeh.** “Heterogeneous skeleton for summarizing continuously distributed demand in a region.” In *Proceedings of 10<sup>th</sup> International Conference on Geographic Information Science*, vol. 114.
- 2018 **S. Wang, S. Gao, X. Feng, A. Murray, Y. Zeng.** “A context-based geoprocessing framework to find optimal spatiotemporal meetup location on road networks for multiple moving objects.” *International Journal of Geographical Information Science*, 32(7), 1368-1390. <https://doi.org/10.1080/13658816.2018.1431838>.
- 2018 **X. Feng, A. Murray.** “Spatial analytics for enhancing street light coverage of public spaces.” *LEUKOS*, 14(1): 13-23. <https://doi.org/10.1080/15502724.2017.1321486>.

- 2016 A. Murray, **X. Feng**. “Public street lighting service standard assessment and achievement.” *Socio-Economic Planning Sciences* 53: 14-22. <https://doi.org/10.1016/j.seps.2015.12.001>.
- 2016 **X. Feng**, S. Myint. “Exploring the effect of neighboring land cover pattern on land surface temperature of central building objects.” *Building and Environment*, 95: 346-354.
- 2014 J. Song, S. Du, **X. Feng** and L. Guo. “The relationships between landscape compositions and land surface temperature: Quantifying their resolution sensitivity with spatial regression models.” *Landscape and Urban Planning*, 123: 145-157.
- 2013 **X. Feng**, S. Du, F. Zhang and S. Wang. “Urban land classification of high-resolution images based on multi-scale fusion.” *Journal of Geography and Geo-Information Science* 29(3): 43-47.
- 2011 **X. Feng**, S. Du, H. Shu. “The effect of spatial weight matrices on spatial autocorrelation - a case study of hemorrhagic fever with renal syndrome (HFRS) in China.” *Geomatics and Information Science of Wuhan University*, 36(12): 1410-1413.
- 2011 **X. Feng**, S. Du, H. Shu. “Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China.” *Proceedings of 2011 IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services*, 77-80.

### Research Funding

- Pending H. Luan (MPI), **X. Feng** (MPI). Revolutionizing Spatial Accessibility Measurement for Pre-Exposure Prophylaxis in Public Health Using Large Language Models. NIH R21. \$466,366.
- 2025 **X. Feng**. From Targets to Tracks: A Route-Optimization Prototype for NURTURE. NASA Oklahoma EPSCoR Travel Grant. \$2,924.
- 2023 **X. Feng**, D. Schwartzman. Optimizing the location of Mobile Radar Deployment to Support Meteorological Observation. The University of Oklahoma (Vice President for Research and Partnerships, Faculty Investment Program), \$ 9,981.3.
- 2023 **X. Feng**, J. Koch. Spatially explicit delineation for boundaries of social-environmental systems: a case in the Rio Grande – Rio Bravo basin. The University of Oklahoma (Data Institute for Societal Challenges Seed Grant), \$10,000.

### Unselected

- 2025 W. Jiao (TAMU), **X. Feng** (OU), X. Ye (U. Alabama), E. Morgan (TAMU), R. Feagin (TAMU). FIRE-NET: A Large Language Model-Enabled Digital Twin Based Network for Cross-Sector Wildfire Management. NSF FIRE. \$1.6 million.
- 2024 **X. Feng**, D. Ebert, W. Jentner, D. Schwartzman. Elements: SiteMobileRadar: An Advanced Tool for the Strategic Deployment of Mobile Radars to Enhance Meteorological Observations. NSF CSSI. \$295,266.
- 2023 **X. Feng**, J. Koch. Spatially Explicit Delineation for Boundaries of Social-Environmental Systems: A Case in the Rio Grande - Rio Bravo basin. NSF MMS. \$164,448.
- 2023 **X. Feng**, D. S Schwartzman, H. Bluestein. Elements: SiteMobileRadar: An Advanced QGIS Plugin for the Strategic Deployment of Mobile Radars to Enhance Meteorological Observations. NSF CSSI. \$282,557.
- 2023 C. Deng, **X. Feng**, A. Yang. Social Stratification and Urban Park Accessibility Inequity: Patterns, Changes, and Mitigation. NSF HEGS. \$399,978.
- 2022 S. Myint, **X. Feng**, J. Luvall, C. Wang, G. Chen, Y. Zhu. Tackling the tradeoff between water conservation and climate mitigation in 22 ecologically and economically stressed US mega cities. NASA ECOSTRESS, \$478,918.

## Courses Taught

- GEOG 6240 Seminar on Geographical Artificial Intelligence (Spring 2026)
- GIS 4833/5833 Environmental Spatial Modeling (Spring 2022, 2023, 2024)
- GIS 5253 GIS Application (Online Master Program) (Fall and/or Summer 2024, 2025)
- GIS 2023 Introduction to Spatial Thinking and Computer Mapping (Spring & Fall 2022, 2023, 2024, 2025)
- GIS 2023 Online - Introduction to Spatial Thinking and Computer Mapping (Fall 2022)

## Students Advised

### Doctoral (advisor)

- Bikram Parajuli (2022 – current)
- Chenchun Wang (2022 – current)
- Rowland Olawale (2025 – current)

### Doctoral (committee member)

- Joshua Wimhurst – graduated in 2023.
- Chinedu Nsude

### Doctoral (external representative)

- Kevin Thiel – graduated in 2025.
- Elizabeth Spicer

### Master's (advisor)

- M. Shahriyar Parvez – graduated in 2024; Recipient of 2025 AAG Marble Fund Award for Innovative Masters Research in Quantitative Geography.

### Master's (committee member)

- David Conn – graduated in 2022

## Honors and Awards

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|-----------|--|
| 2022      | TRELIS Fellow, selected through a competitive process to participate in an intensive program of professional development for academic women in the geospatial sciences. Program funded by the US National Science Foundation (Award #1660400). |
| 2021      | Finalist, William L. Garrison Award for Best Dissertation in Computational Geography, American Association of Geographers.   |
| 2019      | Excellence in Research Award, Department of Geography, University of California, Santa Barbara.  |
| 2019      | 2 <sup>nd</sup> Place, Student Paper Competition, Geographic Information Science and Systems Specialty Group (GISS-SG), American Association of Geographers Annual Meeting, Washington, DC, April 3-7.   |
| 2018      | 2 <sup>nd</sup> Place, Tiebout Prize, Best Graduate Student Paper Award Western Regional Science Association 57 <sup>th</sup> Annual Meeting, USA, February 11-14.   |
| 2016-2018 | Dangermond Travel Grant, Department of Geography, UCSB. (Winter 2018, Spring 2018, Spring 2017, Fall 2017, Fall 2016)  |
| 2014      | Lounsbury Student Travel Fellowship, Arizona State University.   |
| 2013      | Second Prize Scholarship, Peking University, China.  |
| 2012      | Wusi Individual Scholarship, Peking University, China.   |
| 2012      | First Prize Scholarship, Peking University, China.   |
| 2011      | 2 <sup>nd</sup> Place, Best Student Paper Award, IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services, Fuzhou, China, July 6-8.  |
| 2010      | Excellent B. S. Dissertation, Hubei Province, China.   |

### Meetings and Conference Presentations (*My Students*)

- 2025 C. Wang, X. Feng. “Spatial analytics for determining mobile radar deployment location in severe weather observations.” *American Association of Geographers Annual Meeting*, Detroit, Michigan, USA, March 24-28, 2025.
- 2025 X. Feng. “Enhancing accessibility of spatial optimization techniques through large language models: A case study in autonomous agent guidance for regionalization.” *American Association of Geographers Annual Meeting*, Detroit, Michigan, USA, March 24-28, 2025.
- 2025 M. Parvez, X. Feng. “A Framework for Social-Environmental System Boundary Delineation: Enhancing Quantitative Geography through Spatial Optimization.” *American Association of Geographers Annual Meeting*, Detroit, Michigan, USA, March 24-28, 2025.
- 2024 B. Parajuli, X. Feng. “Strategic deployment of a single mobile weather radar for the enhancement of meteorological observation: A coverage-based location problem.” AGU Annual Meeting, Washington DC, December 9-13, 2024.
- 2024 X. Feng, Y. Cao. “RegionDefiner: Democratizing regionalization algorithms through large language models.” *71st North American Meetings of the Regional Science Association International*, New Orleans, Louisiana, USA, November 13-16, 2024.
- 2024 X. Feng, J. Koch. “Delineating spatial unit boundaries for socio-environmental systems analysis and modeling – combining vector and raster data.” *American Association of Geographers Annual Meeting*, Honolulu, Hawaii, USA, April 16-20, 2024.
- 2024 X. Feng, D. Schwartzman, B. Parajuli, X. Wang. “Location optimization of mobile radar deployment.” *104<sup>th</sup> Annual Meeting of American Meteorological Society*, Baltimore, Maryland, USA, January 28–February 1, 2024.
- 2023 M. Parvez, X. Feng. “Defining the basic units of social-environmental systems for landscape planning: an approach towards regionalization.” *Southwest Division of the American Association of Geographers Annual Meeting*, Laredo, Texas, USA, November 2-3, 2023.
- 2023 B. Parajuli, X. Feng. “A cover-based single facility location problem with continuous heterogeneous demand.” *70th North American Meetings of the Regional Science Association International*, San Diego, California, USA, November 15-18, 2023.
- 2023 X. Feng, D. Schwartzman, B. Parajuli. “A united framework for siting a mobile radar vehicle for meteorological observation.” *70th North American Meetings of the Regional Science Association International*, San Diego, California, USA, November 15-18, 2023.
- 2023 X. Feng. “A multi-source, raw material allocation form of multi-plant Weber problem.” *American Association of Geographers Annual Meeting*, Denver, Colorado, USA, March 23-27, 2023.
- 2020 X. Feng, Sergio Rey, Ran Wei. “Max-p-Compact-Regions Problem”. *67<sup>th</sup> North American Meetings of the Regional Science Association International*, Virtual meeting, November 9-13, 2020.
- 2019 X. Feng, A. Murray, R. Church. “Medical drone service response: spatiotemporal heterogeneity implications.” *American Association of Geographers Annual Meeting*, Washington, DC, April 3-7, 2019.
- 2018 X. Feng and A.T. Murray. “Addressing Spatial Allocation: Planning for Drone-based Emergency Medical Service.” *Western Regional Science Association 57<sup>th</sup> Annual Meeting*, Pasadena, California, USA, February 11-14, 2018.

- 2017 X. Feng, S. Wang, S. Gao, and Y. Cao. "Spatial analytics for supporting meetup location." *64th North American Meetings of the Regional Science Association International*, Vancouver, British Columbia, Canada, November 8-11, 2017.
- 2017 X. Feng and A.T. Murray. "Heterogeneous Voronoi diagram." *2017 Annual Meeting of the American Association of Geographers*, Boston, Massachusetts, USA, April 5-9, 2017
- 2016 X. Feng and A.T. Murray. "Heterogeneous space facility siting in order to maximize coverage." *63rd North American Meetings of the Regional Science Association International*, Minneapolis, Minnesota, USA, November 9-12, 2016.
- 2016 X. Feng and A.T. Murray. "Spatial analytics for enhancing street light coverage of public spaces." *2016 Annual Meeting of the American Association of Geographers*, San Francisco, California, USA, March 29- April 2, 2016.
- 2015 X. Feng and S. Myint. "The effect of spatial heterogeneity of land cover types on land surface temperatures within different land use categories." *2015 Annual Meeting of the American Association of Geographers*, Chicago, Illinois, USA, April 21-25, 2015.
- 2014 A.T. Murray and X. Feng. "Street light coverage optimization." *61st North American Meetings of the Regional Science Association International*, Washington, D.C., USA, November 12-15, 2014.
- 2014 Xin Feng. "Understanding the effect of neighboring land cover pattern on land surface temperature of central building patch in Beijing." *2014 Annual Meeting of the American Association of Geographers*, Tampa, US, April 8-12, 2014.
- 2011 Xin Feng, Shihong Du, Hong Shu. "Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China." *IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services & 8th Beijing International Workshop on Geographical Information Science*. Fuzhou, China, July 6-8, 2011.

### **Professional Service**

### **Professional Society Service**

**Boards:** Spatial Analysis and Modeling Specialty Group, American Association of Geographers, Board of Officers (2022–2025).

### **Funding/Grant Reviewer**

NSF Graduate Research Fellowship Program (GRFP) 2024

NSF Human-Environment and Geographical Sciences Program (HEGS) 2025

### **Session Organizer and Chair**

American Association of Geographers Annual Meeting, Spatial Analysis and Optimization Sessions, Session Organizer and Chair (2022, 2023, 2024, 2025, 2026)

North American Meetings of the Regional Science Council International, Location and Spatial Analysis Sessions, Session Chair (2024)

### **Journal Reviewer**

*Annals of GIS*

*Building and Environment*

*Cartography and Geographic Information Science*

*Cities*

*Computational Urban Science*

*Computers, Environment and Urban Systems*

*Construction and Building Materials*

*Environmental Management*

*Environment and Planning B: Urban Analytics and City Science*  
*Geographical Analysis*  
*IEEE Access*  
*International Journal of Applied Earth Observation and Geoinformation*  
*International Journal of Geo-Information*  
*International Journal of Geographical Information Science*  
*ISPRS International Journal of Geo-Information*  
*Journal of Geographical Systems*  
*Journal of Transport Geography*  
*LEUKOS*  
*Papers in Regional Science*  
*Socio-Economic Planning Sciences*  
*Sustainable Cities and Society*  
*Transportation Research Part E: Logistics and Transportation Review*  
*Transactions in GIS*

### **University and Department Committees**

University of Oklahoma, Department of Geography and Environmental Sustainability

Award and Scholarship Committee (2025-Present)

Graduate Committee (2023-Present)

Faculty Search Committee

Director of the Center of Spatial Analysis (2021-2022)

Earth System Science Position (2024-2025)

Colloquium Committee (2021-2024)

Technology Committee (2021-2022)

University of Oklahoma, College of Atmospheric and Geographic Sciences

Cluster Hire Committee Focused on Community Resilience to Extreme Weather (2025-2026)

University of Oklahoma

Faculty Compensation & Benefits Committee, Faculty Senate (2025-2027)

University of California, Santa Barbara, Department of Geography (2016-2019)

Events Committee

Outreach Committee

### **Professional Society Membership**

American Association of Geographers

Regional Science Association International

American Meteorological Society