Guiming Zhang curriculum vitae v.2023.03.08

Assistant Professor, Ph.D.
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         https://guiming.github.io/

RESEARCH INTERESTS

Geographic information science, volunteered geographic information, geospatial big data analytics, species habitat mapping, digital soil mapping, geospatial computing

EDUCATION

Ph.D. GIScience, University of Wisconsin-Madison, USA, 2018

M.S. Computer Sciences, University of Wisconsin-Madison, USA, 2016

M.S. Cartography and GIS, Beijing Normal University, China, 2013

B.S. Geography, Beijing Normal University, China, 2010

HONORS AND AWARDS

- Best Paper Competition Award (Runner Up) at the 2nd International Symposium on Spatiotemporal Computing, Cambridge, MA, 2017.

- Whitbeck Graduate Dissertator Award, Department of Geography, UW-Madison, 2017.

- Trewartha Conference Travel Award, Department of Geography, UW-Madison, 2017.

- Campus-Wide Capstone Ph.D. Teaching Award, UW-Madison, 2016.

- Excellent Olympics Volunteer Award, Beijing Summer Olympics, 2008

- Undergraduate Scholarship, Beijing Normal University, 2007/2008

TEACHING

University of Denver (since September 2018)

Academic Year 22-23:

GEOG3120: Environmental/GIS Modeling. **2023 Spring**. 11 students. *Topics*: kernel density estimation, kriging, digital soil mapping, species distribution modeling, geographically weighted regression.

GEOG2100: Introduction to Geographic Information Systems (GIS). **2023 Spring**. 24 students. Topics: georeferencing, map projections, raster data model, vector data model, spatial data collection, attribute/spatial queries, overlay, map algebra, etc.

GEOG2000: Geographic Statistics. **2023 Winter**. 20 students. *Topics*: descriptive statistics, probability, sampling, inferential statistics, correlation and regression, categorical data analysis.

GEOG3140: GIS Database Design. **2022 Fall**. 14 students. *Topics*: relational model, relational database, spatial database, geodatabase, SQL, PostgreSQL/PostGIS.

Academic Year 21-22:

GEOG2100: Introduction to Geographic Information Systems (GIS) [Online Summer Course]. **2022 Summer**. 7 students. *Topics*: as above.

GEOG3120: Environmental/GIS Modeling. **2022 Spring**. 15 students. *Topics*: as above.

GEOG2000: Geographic Statistics. **2022 Winter**. 18 students. *Topics*: as above.

GEOG2100: Introduction to Geographic Information Systems (GIS). **2021 Fall**. 12 students. Topics: as above.

Academic Year 20-21:

GEOG2100: Introduction to Geographic Information Systems (GIS). **2021 Spring**. [Synchronous/asynchronous online due to COVID-19]. 24 students. *Topics*: as above.

GEOG3120: Environmental/GIS Modeling. **2021 Spring**. [Synchronous online due to COVID-19]. 16 students. *Topics*: as above.

GEOG3140: GIS Database Design. **2020 Fall**. [Synchronous online due to COVID-19]. 13 students. *Topics*: as above.

Academic Year 19-20:

GEOG2100: Introduction to Geographic Information Systems (GIS). **2020 Spring**. [Synchronous/asynchronous online due to COVID-19]. 20 students. Topics: as above.

GEOG3120: Environmental/GIS Modeling. **2020 Winter**. [New course]. 10 students. *Topics*: as above.

GEOG2000: Geographic Statistics. **2020 Winter**. 18 students. *Topics*: as above.

GEOG3140: GIS Database Design. **2019 Fall**. 8 students. *Topics*: topics as above.

Academic Year 18-19:

GEOG2000: Geographic Statistics. **2019 Winter**. 17 students. *Topics*: topics as above.

GEOG3140: GIS Database Design. **2018 Fall**. 16 students. *Topics*: topics as above.

University of Wisconsin-Madison (September 2013 - May 2018)

1. **Lecturer**, Geography 579: GIS and Spatial Analysis [Online]. **2017 Summer, Fall** Semester. *Topics*: digital terrain analysis, spatial autocorrelation, spatial interpolation, point pattern analysis.

2. **Lecturer**, Geography 576: Geospatial Web and Mobile Programming [Online]. **2017 Spring** Semester. *Topics*: Java programming language, web and mobile application development for GIS.

3. **Lecturer**, Geography 579: GIS and Spatial Analysis [Online]. **2016 Fall** Semester. *Topics*: topics as above.

4. **Teaching Assistant**, Geography 170: Our Digital Globe - An Overview of GIScience and its Technology [Online]. **2016 Summer** Semester. *Topics*: GIS, GPS, remote sensing.

5. **Lecturer**, Geography 377: An Introduction to Geographic Information System. **2016 Spring** Semester. Topics: spatial data representation, spatial database, spatial analysis, geovisualization, uncertainty. This is an in-classroom course with 78 students enrolled.

6. **Teaching Assistant**, Geography 578: GIS Applications. **2015 Spring** and **Fall** Semester. *Topics*: GIS application to solve real-world geographic problems, problem conceptualization, technical implementation.

7. **Teaching Assistant**, Geography 377: An Introduction to Geographic Information System, **2014 Fall** Semester. *Topics*: geo-referencing, digitalizing, geodatabase, spatial analysis.

8. **Teaching Assistant**, Geography 676: Web Spatial Database Development and Programming, **2014 Spring** Semester. *Topics*: relational data model, spatial database, PostgreSQL/PostGIS, Java programming language, Java Server Page, JavaScript, HTML.

9. **Teaching Assistant**, Geography 578: GIS Applications. **2013 Fall** Semester. *Topics*: topics as above.

PUBLICATIONS

Refereed Journal Articles (Google Scholar)

Published/Accepted:

1. **Zhang G**, Xu J. **2023**. Multi-GPU-parallel and tile-based kernel density estimation for large-scale spatial point pattern analysis. *ISPRS International Journal of Geo-Information*, *12*(2), 31. doi: 10.3390/ijgi12020031.

2. **Zhang, G**. **2022**. PyCLKDE: A big data-enabled high-performance computational framework for species habitat suitability modeling and mapping. *Transactions in GIS*, 26(4): 1754-1774. doi: 10.1111/tgis.12901.

3. **Zhang, G. 2022**. Detecting and visualizing observation hot-spots in massive volunteer-contributed geographic data across spatial scales using GPU-accelerated kernel density estimation. *ISPRS International Journal of Geo-Information*, 11(1): 55. doi: 10.3390/ijgi11010055.

4. **Zhang, G**, Zhu, A-X, Liu, J, Guo, S, Zhu, Y. **2021**. PyCLiPSM: Harnessing heterogeneous computing resources on CPUs and GPUs for accelerated digital soil mapping. *Transactions in GIS* 25(3): 1396–1418. doi: https://doi.org/10.1111/tgis.12730.

5. **Zhang, G., 2021**. DC-29 - Volunteered Geographic Information. *The Geographic Information Science & Technology Body of Knowledge* (1st Quarter 2021 Edition), John P. Wilson (Ed.). doi: 10.22224/gistbok/2021.1.1.

6. **Zhang, G., 2020**. Spatial and temporal patterns in volunteer data contribution activities: A case study of eBird. *ISPRS International Journal of Geo-Information*, 9(10): 597. doi: 10.3390/ijgi9100597.

7. **Zhang, G.**, and Zhu, A.X., **2020**. Sample size and spatial configuration of volunteered geographic information affect effectiveness of spatial bias mitigation. *Transactions in GIS*, 24(5): 1315-1340. doi: 10.1111/tgis.12679.

8. **Zhang, G.**, Zhu, A.X, He, Y.C., Huang, Z.P., Ren, G.P., and Xiao, W., **2020**. Integrating multi-source data for wildlife habitat mapping: A case study of the black-and-white snub-nosed monkey (Rhinopithecus bieti) in Yunnan, China. *Ecological Indicators*, 118: 106735. doi: 10.1016/j.ecolind.2020.106735.

9. **Zhang, G., 2019.** Enhancing VGI application semantics by accounting for spatial bias. *Big Earth Data*. doi: 10.1080/20964471.2019.1645995.

10. **Zhang, G.** and Zhu, A.X., **2019**. A representativeness heuristic for mitigating spatial bias in existing soil samples for digital soil mapping. *Geoderma* 351: 130-143. doi: 10.1016/j.geoderma.2019.05.024.

11. **Zhang, G.** and Zhu, A.X., **2019**. A representativeness-directed approach to mitigate spatial bias in VGI for the predictive mapping of geographic phenomena. *International Journal of Geographical Information Science* 33 (9): 1873-1893. doi: 10.1080/13658816.2019.1615071.

12. **Zhang, G.**, and Zhu, A.X., **2018**. The representativeness and spatial bias of volunteered geographic information: a review. *Annals of GIS* 24(3): 151–162. doi:10.1080/19475683.2018.1501607.

13. **Zhang, G.**, Zhu, A.X., Windels, S.K., and Qin, C.Z., **2018**. Modelling species habitat suitability from presence-only data using kernel density estimation. *Ecological Indicators* 93: 387–396. doi:10.1016/j.ecolind.2018.04.002.

14. **Zhang, G.**, Zhu, A.X., Huang, Z.P., and Xiao, W., **2018**. A heuristic-based approach to mitigating positional errors in patrol data for species distribution modeling. *Transactions in GIS* 22(1): 202–216. doi: 10.1111/tgis.12303.

15. **Zhang, G.**, Zhu, A.X., Huang, Z.P., Ren, G., Qin, C.Z., and Xiao, W., **2018**. Validity of historical volunteered geographic information: Evaluating citizen data for mapping historical geographic phenomena. *Transactions in GIS* 22(1): 149–164. doi: 10.1111/tgis.12300.

16. **Zhang, G.**, Zhu, A.X., and Huang, Q., **2017**. A GPU-accelerated adaptive kernel density estimation approach for efficient point pattern analysis on spatial big data. *International Journal of Geographical Information Science* 31(10): 2068-2097. doi: 10.1080/13658816.2017.1324975.

17. **Zhang, G.**, Huang, Q., Zhu, A.X., and Keel, J., **2016**. Enabling point pattern analysis on spatial big data using cloud computing: Optimizing and accelerating Ripley's K function. *International Journal of Geographical Information Science* 30(11):2230–2252.doi: 10.1080/13658816.2016.1170836.

18. Zhu, A.X., **Zhang, G.** (**corresponding author**), Wang, W., Xiao, W., Huang, Z.P., Dunzhu, G.S., Ren, G., Qin, C.Z., Yang, L., Pei, T., and Yang, S.T., **2015**. A citizen data-based approach to predictive mapping of spatial variation of natural phenomena. *International Journal of Geographical Information Science* 29(10):1864–1886. doi: 10.1080/13658816.2015.1058387.

19. Huang, Q., Cervone, G., and **Zhang, G.**, **2017**. A cloud-enabled automatic disaster analysis system of multi-sourced data streams: An example synthesizing social media, remote sensing and Wikipedia data. *Computers, Environment and Urban Systems* 66: 23–37. doi: 10.1016/j.compenvurbsys.2017.06.004.

20. Roth, R.E., Young, S., Nestel, C., Sack, C.M., Davidson, B., Janicki, J., Knoppe-Wetzel, V., Ma, F., Mead, R., Rose, C., and **Zhang**, **G.**, **2018**. Global landscapes: Teaching globalization through responsive mobile map design. *The Professional Geographer*. 70(3): 395-411. doi: 10.1080/00330124.2017.1416297.

21. Jiang, J., Zhu, A.X., Qin, C.Z., Zhu, T., Liu, J., Du, F., Liu, J., **Zhang**, **G.** and An, Y., **2016**. CyberSoLIM: A cyber platform for digital soil mapping. *Geoderma* 263:234–243. doi: 10.1016/j.geoderma.2015.04.018.

22. Guo, S., Zhu, A.X., Meng, L., Burt, J., Du, F., Liu, J., and **Zhang, G.**, **2015**. Unification of soil feedback patterns under different evaporation conditions to improve soil differentiation over flat area. *International Journal of Applied Earth Observation and Geoinformation* 49:126-137. doi: 10.1016/j.jag.2016.02.002.

23. Guo, S., Meng, L., Zhu, A.X., Burt, J., Du, F., Liu, J., and **Zhang, G.**, **2015**. Data-gap filling to understand the dynamic feedback pattern of soil. *Remote Sensing* 7:11801–11820. doi: 10.3390/rs70911801.

24. **Zhang, G**., Zhu, A.X., Yang, S., Qin, C.Z., Xiao, W., and Windels, S. K., **2013**. Mapping wildlife habitat suitability using kernel density estimation. *Acta Ecologica Sinica* 33(23):7590–7600 (In Chinese). doi: 10.5846/stxb201208221185.

Refereed Book Chapters

1. **Zhang, G., 2022**. Mitigating spatial bias in volunteered geographic information for spatial modeling and prediction. in: Li, B., Shi, X., Zhu, A.X., Wang, C., Lin, H. (Eds.), *New Thinking in GIScience*. Springer Nature, Singapore. doi: 10.1007/978-981-19-3816-0_20.

2. **Zhang, G., 2019**. Integrating citizen science and GIS for wildlife population monitoring and habitat assessment. in: Ferretti, M. (Eds.), *Wildlife Population Monitoring*. IntechOpen Limited, London, UK. ISBN: 978-1-78984-170-1. doi: 10.5772/intechopen.83681.

CONFERENCE PRESENTATIONS

1. **Zhang, G., 2023.** Spatial and Temporal Patterns in Volunteer Data Contribution Activities: A Case Study of eBird. <u>Paper Session</u>: Symposium on Human Dynamics Research: Mining Human Dynamics with Big Data. *The 2023 Annual Meeting of the American Association of Geographers (AAG)*. Denver, Colorado, USA: March 23 - March 27, 2023.

2. **Zhang, G., 2022.** Detecting and Visualizing Observation Hot-Spots in Massive Volunteer-Contributed Geographic Data across Spatial. <u>Paper Session</u>: GIS, Modeling, and Assessment. *2022 AAG Great Plains-Rocky Mountain Division Annual Meeting*. Denver, Colorado, USA: October 14 - October 15, 2022.

3. **Zhang, G., 2022**. PyCLKDE: A big data-enabled high-performance computational framework for species habitat suitability modeling and mapping (Recording: https://youtu.be/aYhk3sC-qjU). <u>Paper Session</u>: Advancement in Remote Sensing of Environment. *The 29th International Conference on Geoinformatics, Beijing, China*: August 15-18, 2022. [Virtual]

4. **Zhang, G., 2022.** Spatial and Temporal Patterns in Volunteer Data Contribution Activities: A Case Study of eBird (Recording: https://youtu.be/oHt8OfmQU-4). <u>Virtual Paper Session</u>: Symposium on Human Dynamics Research: Mining Human Dynamics with Big Data. *The 2022 Annual Meeting of the American Association of Geographers (AAG)*. New York City, New York, USA: February 25 - March 1, 2022. [Virtual]

5. **Zhang, G., 2021**. PyCLiPSM: Harnessing heterogeneous computing resources on CPUs and GPUs for accelerated digital soil mapping (Recording: https://youtu.be/YG4nsAZZm1E). <u>Paper Session</u>: Virtual Geographic Environments. *The 28th International Conference on Geoinformatics, Jiangxi, China*: November 3-5, 2021. [Virtual]

6. **Zhang, G., 2021.** Sample size and spatial configuration of volunteered geographic information affect effectiveness of spatial bias mitigation (Recording: https://youtu.be/3WH_i57hdv4). <u>Virtual Paper Session</u>: Symposium on Human Dynamics Research: Mapping, Modeling and Prediction with VGI. *The 2021 Annual Meeting of the American Association of Geographers (AAG)*. Seattle, Washington, USA: April 7-11, 2021. [Virtual]

7. **Zhang, G.,** and Thomson, S., **2020.** Integrating VGI and authoritative data for wildlife habitat mapping (Recording: https://www.youtube.com/watch?v=xOIQRAcheaw). <u>Virtual Session</u>: Physical Geography, Biogeography. *The 2020 Annual Meeting of the American Association of Geographers (AAG)*. Denver, Colorado, USA: April 6-10, 2020. [All in-person meetings were cancelled due to COVID-19].

8. Zhu, A.X., **Zhang, G.**, Gao, S., 2019. A similarity approach to spatial bias mitigation in VGI: a case study of suitability mapping using eBird data. *International Symposium on Location-Based Big Data 2019 (LocBigData 2019)*. Tokyo, Japan: July 15, 2019.

9. **Zhang, G.**, Zhu, A.X., Windels, S.K., Qin, C.Z., **2019**. Modelling species habitat suitability from presence-only data using kernel density estimation. Session: Modeling for Sustainability 2: Past and Present. *The 2019 Annual Meeting of the American Association of Geographers (AAG)*. Washington, District of Columbia, USA: April 3-7, 2019.

10. **Zhang, G.**, and Zhu, A.X., **2018**. Representativeness-directed sample spatial bias mitigation for predictive mapping. Session: Artificial Intelligence and Deep Learning Symposium: AI for Spatial Optimization. *The 2018 Annual Meeting of the American Association of Geographers (AAG)*. New Orleans, Louisiana, USA: April10-14, 2018.

11. **Zhang, G.**, Zhu, A.X., and Huang, Q., **2017**. GPU-accelerated adaptive kernel density estimation for point pattern analysis on spatial big data. Extended Abstract. *The 25th International Conference on Geoinformatics*. Buffalo, New York, USA: August 2-4, 2017.

12. **Zhang, G.**, Zhu, A.X., and Huang, Q., **2017**. A GPU-accelerated adaptive kernel density estimation approach for efficient point pattern analysis on spatial big data. *2017 2nd International Symposium on Spatiotemporal Computing (ISSC)*. Harvard University, Cambridge, Massachusetts, USA: August 7-9, 2017.

INVITED TALKS

1. **Zhang, G.**, **2022**. VGI for predictive mapping: Theoretical and computational methods. Department of College of Land Science and Technology, China Agricultural University. Beijing, China: March 8, 2022.

2. **Zhang, G.**, **2019**. A representativeness directed approach to spatial bias mitigation in VGI for predictive mapping. Institute of Eastern-Himalaya Biodiversity Research, Dali University. Dali, Yunnan, China: August 2, 2019.

3. **Zhang, G.**, **2018**. A representativeness directed approach to spatial bias mitigation in VGI for predictive mapping. *The 4th Hanhong International Forum for Young Scholars*. Department of Geography, Southwest University. Beibei, Chongqing, China: November 29 – December 2, 2018.

GRANTS

1. The Changing Dynamics of Human-Nature Interactions during COVID-19: A Case Study of the iNaturalist Citizen Science Community. *DU Professional Research Opportunities for Faculty (PROF) Fund*. $27,000. PI: Guiming Zhang. **2022**. 7/1/2022 – 7/1/2024.

2. Visualizing point patterns in massive VGI datasets to understand their inherent spatial bias characteristics. *DU Faculty Research Fund*. $3000. PI: Guiming Zhang. **2021**. 1/24/2022 – 1/23/2024.

3. Using deep convolutional neural networks and big data to model the distribution of birds in the Americas. *Microsoft AI for Earth - Azure Compute Credit Grants*. $10,000 *credits*. PI: Guiming Zhang. 11/01/2019 – 11/01/2020.

4. Building a citizen-centric digital urban environmental observatory with Nature Kids. *DU Public Good Grant Fund*. $13,719. Co-PIs: Jing Li, Paul Sutton, and Guiming Zhang. 05/09/2019 – 12/15/2020. [Cancelled due to COVID-19].

5. Detecting observation hot-spots in massive citizen-contributed geographic data, *DU Faculty Research Fund*. $2291. PI: Guiming Zhang. 05/20/2019 – 05/19/2021.

6. Integrating local ecological knowledge and patrol records for wildlife habitat mapping using GIS. *DU Internationalization Grant*. $4000. PI: Guiming Zhang. 05/1/2019 – 06/15/2020.

STUDENT ADVISING

Advisor (dissertation/thesis/independent study/directed study)

1. Jin Xu (2021 -) - Ph.D. student. *Research interests*: Volunteered Geographic Information (VGI), spatial big data, geospatial artificially intelligence (GeoAI).

2. Nick Harsted (2023) - M.S. GIS (Online). *Directed Study*: GIS Database Design.

3. Mackenzie Kottwitz (2020 - 2022) - M.S. GIS. *Capstone Project*: The Social Life of a Hurricane: Maintaining Relevancy Across Time and Space.

4. Juanlin Liu (2022) - B.A. Geography. *Independent Study*: Birds on Story Map.

5. Joe Hiebert (2021) - M.S. GIS. *Independent Study*: Advanced Web Mapping Methods.

6. Chloe Pepke (2021) - B.S. Ecology & Biodiversity. *Honors Thesis*: Population Status and Seasonal Distribution of *Tremarctos Ornatus* in Nanegal, Ecuador. Co-advisor: Dr. Matthew Taylor.

7. Mark Ludke (2020) - B.S. Environmental Science. *Independent Study*: GIS and Social Advocacy.

Committee Member

1. Joe Hiebert (2021 - 2022) - M.S. GIS. *Capstone Project*: Geovisualization and Web Mapping of Origin-Destination Data.

2. Jennifer Murdock (2021) - M.S. GIS. *Capstone Project*: Delimiting the Transcontinental Arch of the Rocky Mountain Region Using GIS Based Contour Mapping.

3. Matt Hugel (2020) - M.S. GIS. *Capstone Project*: Improving Transportation Planning Practices with GPS Trajectory Data.

4. Hayley Miller (2020) - M.S. GIS. *Capstone Project*: Utilizing Geospatial Artificial Intelligence for Road Feature Detection & Geotagging.

5. Sophie-Min Thomson (2020) - M.S. GIS. *Capstone Project*: Using UAS/V to Create a 3D Photorealistic Model of the Town of Morrison and Applications of the Model.

PROFESSIONAL SERVICES

Conference Session Organizer

- Organizing Committee Member: *The 9th Symposium on Human Dynamics Research* at the 2023 Annual Meeting of the American Association of Geographers, Denver, CO, March 23-March 27, 2023.

- Paper Session Organizer: *Symposium on Human Dynamics Research: Mining Human Dynamics with Big Data* at the 2023 Annual Meeting of the American Association of Geographers, Denver, CO, March 23-March 27, 2023.

- Paper Session Organizer: 2023 CyberInfrastructure Specialty Group (CISG) Robert Raskin Student Competition. 2023 AAG Annual Meeting, Denver, CO, March 23-March 27, 2023.

- Paper Session Organizer: AAG 2023 Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions - *CyberGIS and Spatial Decision Support Systems (University Consortium for Geographic Information Science)*. 2023 AAG Annual Meeting, Denver, CO, March 23-March 27, 2023.

- Organizing Committee Member: *The 8th Symposium on Human Dynamics Research* at the 2022 Annual Meeting of the American Association of Geographers, New York City, NY, February 25-March 1, 2022.

- Paper Session Organizer/Chair: *Symposium on Human Dynamics Research: Mining Human Dynamics with Big Data* at the 2022 Annual Meeting of the American Association of Geographers, New York City, NY, February 25-March 1, 2022. [Held virtually due to COVID-19]

- Organizing Committee Member: *The 7th Symposium on Human Dynamics Research* at the 2021 Annual Meeting of the American Association of Geographers, Seattle, WA, April 7-11, 2021.

- Paper Session Organizer/Chair: *Symposium on Human Dynamics Research: Mapping, Modeling and Prediction with VGI* at the 2021 Annual Meeting of the American Association of Geographers. Seattle, Washington, USA: April 7-11, 2021. [Held virtually due to COVID-19]

- Paper Session Organizer/Chair: *Modeling, Prediction and Mapping with VGI* at the 2020 Annual Meeting of the American Association of Geographers (AAG). Denver, Colorado, USA: April 6-10, 2020. [Cancelled due to COVID-19]

Professional Community

- Chair, Social Event Committee, International Association of Chinese Professionals in Geographic Information Sciences (CPGIS) (2023 -)

- Chair, American Association of Geographers (AAG) Cyberinfrastructure Specialty Group (2022-2023)

- Committee Member, Research Committee: *Initiative on CyberGIS and Decision Support Systems*. University Consortium for Geographic Information Science (UCGIS) (2021 -)

- Vice Chair, American Association of Geographers (AAG) Cyberinfrastructure Specialty Group (2021-2022)

- Director, American Association of Geographers (AAG) Cyberinfrastructure Specialty Group (2019-2021)

- *ISPRS International Journal of Geo-Information* Reviewer Board (2019 -).

- *Remote Sensing* Reviewer Board (2019 -).
- The Jacques May Thesis Prize, AAG Health and Medical Geography Specialty Group, 2019

Guest Editor

- Special Issue: Advances and Applications of Geospatial Modeling and Analysis in Digital Twins. *Frontiers in Earth Science*. 2022 - 2023.
- Special Issue: Remote Sensing and GIS Technologies for Sustainable Ecosystem Management. *Remote Sensing*. 2022 - 2023.
- Special Issue: Mapping, Modeling and Prediction with VGI. *ISPRS International Journal of Geo-Information*. 2020.
- Special Issue: Geospatial semantic, ontology and knowledge graph. *Big Earth Data*. 2019

Peer Reviewer (Web of Science)

* In parentheses: year - # of manuscripts reviewed.

- International Journal of Geographical Information Science (2018-1, 2020-1)
- Transactions in GIS (2017-2, 2018-1, 2020-1)
- ISPRS International Journal of Geo-Information (2019-3, 2020-3)
- Annals of GIS (2018-1, 2019-2, 2020-5)
- Computers & Geosciences (2019-1)
- The Professional Geographers (2019-1)
- Journal of Maps (2019-1)
- Sustainability (2019-1)
- Remote Sensing (2019-2, 2020-1)
- Big Earth Data (2019-2)
- Big Data and Cognitive Computing (2020-1)
- PlosOne (2019-1, 2020-1)
- Ecological Indicators (2019-1, 2020-2)
- Earth Science Informatics (2019-2)
- Diversity and Distributions (2020-1)
- IEEE Access (2019-2)
- International Journal of Image and Data Fusion (2017-2)
- Pedosphere (2018-1)

- Applied Sciences (2019-1, 2020-1)

- Sensors (2019-1)

- Data (2019-1)

- The Second International Conference on Physics, Mathematics and Statistics (2019-1)

Others

- Graduate student representative in the search committee of GIS/Physical faculty hire, Department of Geography, UW-Madison, 2017

PROFESSIONAL MEMBERSHIPS

- American Association of Geographers (AAG)

- International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)