

ZHENLONG LI

Associate Professor, Department of Geography
Director, Geoinformation and Big Data Research Laboratory
Fellow, American Association of Geographers
The Pennsylvania State University
202 Walker Building
University Park, PA 16802, USA
zhenlong@psu.edu
<https://giscience.psu.edu>
<https://www.geog.psu.edu/directory/zhenlong-li>
[Google Scholar](#) | [ResearchGate](#)

02/2025

EDUCATION

- **Ph.D.** 2012 – 2015 Earth Systems and Geoinformation Sciences (with Distinction), George Mason University, VA, USA
- **M.S.** 2008 – 2010 Earth System Science, George Mason University, VA, USA
- **B.S.** 2002 – 2006 GIS and Remote Sensing, Wuhan University, China

PROFESSIONAL EXPERIENCE

- 2024 – present: Associate Professor, Department of Geography, The Pennsylvania State University
- 2024 – present: Director, Geoinformation and Big Data Research Laboratory
- 2025 – present: Faculty Affiliate, Larson Transportation Institute
- 2024 – present: Faculty Associate, Institute for Computational and Data Sciences
- 2024 – present: Faculty Affiliate, Earth and Environmental Systems Institute
- 2024 – present: Member, Penn State Cancer Institute
- 2020 – 2023: Associate Professor, Department of Geography, University of South Carolina
- 2022 – 2023: Founding Director, Center for GIScience and Geospatial Big Data (CeGIS), University of South Carolina
- 2019 – 2023: Founding Member and Co-Lead of Social Media Core, Big Data Health Science Center, University of South Carolina
- 2021-2022: Director of Undergraduate Studies, Department of Geography, University of South Carolina

- 2015 – 2023: Director, Geoinformation and Big Data Research Lab, Department of Geography, University of South Carolina
- 2016 – 2023: Faculty Associate, Hazards & Vulnerability Research Institute
- 2019 – 2023: Faculty Associate, South Carolina Smart State Center for Healthcare Quality
- 2015 – 2020: Assistant Professor, Department of Geography, University of South Carolina, Columbia, SC, USA
- 2012 - 2015: Graduate Research and Teaching Assistant, Department of Geography and Geoinformation Sciences, George Mason University, VA, USA
- 2011 - 2012: Manager and Chief GIS Engineer, Department of Research and Development, SeaSky Geomatics Technology Inc., Harbin, China
- 2010 - 2011: GIS Engineer, Heilongjiang Bureau of Surveying and Mapping, Harbin, China
- 2007 - 2010: Visiting Research Scholar, Center of Intelligent Spatial Computing for Water/Energy Science, George Mason University, VA, USA
- 2006 - 2007: GIS Developer, Heilongjiang Bureau of Surveying and Mapping, Harbin, China

HONORS AND AWARDS

My contributions to research, teaching, and service have been recognized by numerous awards and honors, including AAG Fellow, Breakthrough Star Award, and Geospatial World 50 Rising Stars, and ESIP Raskin Scholarship.

1. AAG Fellow, American Association of Geographers, Class of 2025 (*Recognized for making significant contributions to advancing geography. No more than 0.2% of AAG membership is selected in a given year. The honorary title of AAG Fellow is conferred for life.*)
2. Geospatial World 50 Rising Stars, Geospatial World, 2021 (*Recognized for outstanding accomplishments of young individuals who are proactive and passionate about the value of geospatial technology to the economy and society.*)
3. Peter and Bonnie McCausland Faculty Fellowship, College of Arts and Sciences, University of South Carolina, 2020-2023 (*Supporting early-career faculty who are committed, creative teachers and rising stars in their academic disciplines.*)
4. Breakthrough Star Award, University of South Carolina, 2020 (*USC signature award; Recognized for demonstrating considerable contributions to their fields in terms of research and scholarly activity while at USC.*)
5. NSF Travel Award, UCGIS Symposium and summer school, Theme: Collaborative Problem Solving with CyberGIS and Geospatial Data Science, UIUC, Champaign, IL/Arlington, VA, US, 2017

6. USGIF/NVIDIA Essay Challenge Award (with Ning H. and Wang S), 2017
7. USNC/NSF Travel Award, 28th International Cartographic Conference, Washington, DC, US, 2017
8. Outstanding Graduate Ph.D. Award, Department of Geography and Geoinformation Science, George Mason University, 2015
9. Raskin Scholarship, Federation of Earth Science Information Partners (ESIP), 2014 (*ESIP signature award. The Scholarship, which is awarded annually, provides a \$5000 award and travel support to the ESIP Summer Meeting*)
10. Top 5 Finalist, Rob Raskin Mashup Mapping Student Competition, American Association of Geographers, 2013
11. Extraordinary Achievements of Student Research, Hubei, China, 2004
12. Outstanding Student Scholarship, Wuhan University, China, 2003, 2005

RESEARCH GRANTS

I have been PI, Co-PI, or Co-I on 35 grants totaling \$14 million since 2015, with more than \$2.3 million directly allocated to me. Sponsors include the National Science Foundation (NSF), National Institutes of Health (NIH), Taylor Geospatial Institute, NOAA Sea Grant Consortium, and South Carolina Department of Social Services, to name a few.

External Funding

1. 2024-2026, Role: **PI**. Visitation-based obesogenic environment measurement: A novel instrument using Big Data approach. R21, National Institute on Minority Health and Health Disparities/National Institutes of Health (NIH), \$399,392
2. 2023-2024, Role: **PI**. Developing a Novel Wheelchair Mobility Index for Wheelchair Users using Street View Imagery and Artificial Intelligence, NaNDA at University of Michigan/NIH, \$21,130
3. 2023-2028, Role: **Institutional PI** (PI: Qiao S.), The impacts of HIV-related service interruption during COVID-19 pandemic in South Carolina, R01, National Institutes of Health (NIH), \$3,521,311. (\$571,377 to Penn State)
4. 2023-2025, Role: **Institutional PI**. (PI: Yan G. at Missouri S&T), Developing a SMART Geospatial Tool to Classify Building Archetype at Community Level towards Digital-Twins of Disaster Resilience (DTDR), Taylor Geospatial Institute, \$200,000 (\$75,000 to Penn State)
5. 2023-2025, Role: **Institutional PI** (PI: Li X., Zhang J.), Visualizing and predicting new and late HIV diagnosis in South Carolina: A Big Data approach, National Institutes of Health (NIH), \$699,122 (\$114,391 to Penn State)

6. 2023, Role: **PI**. Accessibility Analysis and Visualization of the Children and Youth Foster Care in South Carolina, South Carolina Department of Social Services (SCDSS), \$34,479
7. 2023-2025, Role: **Institutional PI** (PI: Yang X.) Patterns and predictors of racial/ethnic disparities in HIV care continuum in the South, National Institutes of Health (NIH), \$409,637
8. 2023-2025, Role: **PI** (Co-Is: Kaczynski A., Qiao S., Olatosi B., Zhang J., Li X.). Examine the geographic and racial disparities of COVID-19 impact on obesity-related behaviors using cellphone-based place visitation data, Social, Behavioral, & Economic COVID Coordinating Center, University of Michigan, \$29,948
9. 2022-2023, Role: **PI** (Co-PI: Wang C.), Creating a GIS-Based Siting Tool for South Carolina Mariculture Site Selection, NOAA Sea Grant Consortium at South Carolina \$52,620
10. 2022-2023, Role: **Co-I** (PI: Li X., Co-PI: Olatosi B.), Delivering Comprehensive and Sustainable HIV/AIDS Clinical and Community Services to Achieve HIV Epidemic Control in Subnational Units in Nigeria (USC Subaward), Centers for Disease Control and Prevention (CDC), \$90,000
11. 2020-2022, Role: **PI** (Co-PI: Porter D. and Li X.), RAPID: Monitoring the Spatial Spread of COVID-19 through the Lens of Human Movement using Big Social Media Data, National Science Foundation (NSF), 2028791, \$108,717
12. 2021-2026, Role: **Co-I** (with Weissman S., Hu J., Li X.). MPI: Bankole Olatosi & Jiajia Zhang, Patterns and Predictors of Viral Suppression: A Big Data Approach, National Institutes of Health (NIH), R01AI164947, \$3,557,900
13. 2020-2023, Role: **Co-PI** (with Zhang J., Weissman S., Hikment N., Hu J.). PI: Li X. & Olatosi B., Big Data Driven Clinical Informatics & Surveillance - A Multimodal Database Focused Clinical, Community, & Multi-Omics Surveillance Plan for COVID19, National Institutes of Health (NIH), 3R01AI127203-04S1, \$1,252,550
14. 2020-2021, Role: **PI**, XSEDE Startup Resource Allocation for A Scalable Online Visual Analytic System for Big Climate Data Analysis, National Science Foundation (NSF), SES200001, \$1,051
15. 2019-2023, Role: **Co-I** (with Weissman S., Hu J., Zhang J.) MPI: Li X. & Olatosi B., Big Data Analytics of HIV Treatment Gaps in South Carolina: Identification and Prediction, National Institutes of Health (NIH), R01AI127203, \$3,259,978
16. 2018-2019, Role: **PI**, Social Sensing of Disaster Extents and Impacts of Hurricane Florence, Horne LLP, 13540-19-49715, \$5,000
17. 2016-2017, Role: **PI** (Co-I: Hu F.), Prototyping a Cloud-based Spatial Web Portal for Parallel Analytics of Big Climate Data, Federation of Earth Science Information Partners (ESIP), \$6,981
18. 2014-2015, Role: **Co-PI** (PI: Yang C.), Developing a Hadoop-based Middleware for Handling Big Climate Data. NASA/NSF, \$45,000
19. 2013, Role: **Co-PI** (PI: Yang C.), Advanced Certificate for GeoInformation Sciences, NASG, \$70,000

20. 2011-2012, Role: **PI**, Geospatial Web Services Discovery and Integration based on Tianditu, China Ministry of Education, \$3,500

Internal Funding

21. 2023-2024, Role: **PI** (Advisee: Ning H.), Neighborhood Mobility Assessment for Wheelchair Users using Street View Imagery and Artificial Intelligence, USC SPARC Program, 135400-23-62713, \$4,992.
22. 2022-2023, Role: **PI** (Co-Is: Qiao S., Olatosi B., Zhang J.) Developing a novel network-based big data approach to measure healthcare utilization disparity: A feasibility study, BDHSC Pilot Project Program, BDHSC-PP2022-16, \$30,000
23. 2022-2023, Role: **PI** (Co-Is: Qiao S., Li X., Olatosi B., Zhang J.) A novel data-driven approach to empirically link structural racism and health access and utilization in South Carolina, UofSC OVPR Racial Justice and Equity Research Program, \$14,981
24. 2020-2023, Role: **PI** (Co-PI: Kupfer J.), Rapid Estimation of Visitation Activities in U.S. National Parks by Mining Big Social Media Data, USC ASPIRE Program, \$14,846
25. 2021-2023, Role: **Co-PI** (PI: Qiao S.), Identifying a COVID-19 patient cohort based on Twitter data for PASC symptoms analysis, BDHSC Pilot Project Program, \$34,000
26. 2020-2022, Role: **PI** (Co-PI: Olatosi B., Li X.), A Preliminary Study of using Social Media to Monitor the Spatial Propagation of COVID-19 and Quantify the Effectiveness of the Control Measures, USC COVID-19 Internal Funding Initiative, \$13,017
27. 2019-2023, Role: **Co-I** (PI: Li X.), Big Data Health Science Center (BDHSC), University of South Carolina Excellence Initiative, my share of funding: ~\$100,000 (support of one Ph.D. student)
28. 2019-2020, Role: **PI** (Advisee: Jiang Y.), Analyzing Human Mobility Patterns during Hurricane Matthew Evacuation, USC SPARC Program, \$5,000
29. 2017-2019, Role: **PI**, Enhancing Situational Awareness by Mining Big Social Media Data in Near-real Time for Disaster Management: A CyberGIS Approach, ASPIRE Program, \$14,861
30. 2018, Role: **PI**, Prototyping a Near Real-time Flood Mapping System with Social Sensing and Big Data Computing, CAS Faculty Research Initiative, \$3,400
31. 2017-2018, Role: **Co-PI** (PI: Karami A.) Computational Analysis of the US 2016 Presidential Election in Social Media. USC Office of the Provost, \$15,019
32. 2017, Role: **PI** (Advisee: Newsome D.), When, Where, and Who: Mining Billions of Tweets to Understand Celebration Patterns of US Holidays, Magellan program, \$3,000
33. 2016-2017, Role: **PI**. Developing a High-Performance Query Analytical Framework to Support Large Scale Climate Data Analysis, ASPIRE Program, \$14,457
34. 2015-2016, Role: **PI** (Co-I: Wang C., Emrich C., Guo D.), Spatiotemporal Dynamics of Flood Impact by Integrating Satellite, VGI, and Social Media Data: Rapid Assessment of the October Flood, USC Floods Seed Grant, \$18,477

35. 2015-2016, Role: **Co-PI** (PI: Karami A.), A Computational Framework for Tracking Reports, Opinions, and Feelings of People in Social Media Before, During and After a Natural Disaster, USC Floods Seed Grant, \$12,000

PUBLICATIONS

I have authored and co-authored more than 160 publications, including over 120 peer-reviewed journal articles, the majority of which were published with my students and postdoctoral researchers in prestigious international journals. My work has garnered over 6,800 citations with an h-index of 45 and i10-index of 104 according to Google Scholar.

Edited Books

1. **Li Z.**, Huang Q., Emrich C. (eds.) (2021) *Social Sensing and Big Data Computing for Disaster Management*, Routledge/Taylor & Francis, ISBN 978-0-367-61765-3. 204 pages
2. **Li Z.**, Tang W., Huang Q., Shook E., Guan Q. (eds.) (2020) *Big Data Computing for Geospatial Applications*, MDPI, ISBN 978-3-03943-244-8. 222 pages
3. Yang C., Yu M., Huang Q., **Li Z.**, Sun M., Liu K. et al. (2017) *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, ISBN-13 978-1466510081. 328 pages
4. Yang C., Huang Q., **Li Z.**, Xu C., Liu K. (eds.), (2013) *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis. ISBN-13 978-1466593169. 357 pages

Journal Special Editions

5. **Li Z.**, Gao S., Li W., Janowicz K. (guest editors) (forthcoming). Harnessing the Power of Generative AI in GIScience through Autonomous Spatial Agents, *International Journal of Digital Earth* (Taylor & Francis)
6. **Li Z.**, Lai S., Stewart K., Huang B., Li X. (guest editors) (2024). Harnessing Geospatial Big Data for Infectious Diseases, *International Journal of Applied Earth Observation and Geoinformation* (Elsevier)
7. Li X., Huang X., **Li Z.** (guest editors). (2023). Harnessing the Geospatial Data Revolution for Promoting Sustainable Transport Systems. *ISPRS International Journal of Geo-Information* (MDPI)
8. Konecny M., Shen J., **Li Z.** (guest editors) (2021). GIScience for Risk Management in Big Data Era, *ISPRS International Journal of Geo-Information* (MDPI)

Articles in peer-reviewed journals (graduate students or postdocs whose work I have supervised as advisor or committee member/mentor are underscored; * denotes correspondence)

1. Hohl A., Huang X., Han D., Yao A., Liu A., Medina R., Horse A., Wan N., **Li Z.**, Wen M., (2025). Spatial associations of anti-Asian hate on social media in the United States during COVID-

19. *Journal of Racial and Ethnic Health Disparities* (in press)
2. Qin K., Gong Y., Meng X., Ji Z., Li G., Ye X., **Li Z.**, Xie Y., Gui Z., Ai S., Gong W., Zhao P., Xiang L., Yu C. (2025) Reform and Practice of the "Data Acquisition and Preprocessing" Digital and Intelligent Education Course, *Frontiers of Digital Education* (in press)
3. **Ning, H., Li, Z.*., Akinboyewa, T., & Lessani, M. N.** (2025). An Autonomous GIS Agent Framework for Geospatial Data Retrieval. *International Journal of Digital Earth*. <https://doi.org/10.1080/17538947.2025.2458688>
4. **Jing F., Li Z.,** Qiao S., **Lessani N., Ning H.,** Ma W., Li X. (2024) Optimizing U.S. County-Level Infectious Respiratory Disease Forecasts: A Pandemic Case Study Integrating Social Media-Based Physical and Social Connectivity Networks, *International Journal of Digital Earth*. <https://doi.org/10.1080/17538947.2024.2436486>
5. Yu, M., Huang, Q., & **Li, Z.** (2024). Deep learning for spatiotemporal forecasting in Earth system science: a review. *International Journal of Digital Earth*, 17(1), 2391952. <https://doi.org/10.1080/17538947.2024.2391952>
6. Shi F., Mi T., Li X., **Ning H., Li Z.,** Yang X. (2024). Structural racism and HIV Pre-Exposure Prophylaxis use in the nationwide US: A county-level analysis. *Journal of Racial and Ethnic Health Disparities*. <https://doi.org/10.1007/s40615-024-02127-5>
7. Lu J., Xiao X., Huang X., Chuai X., **Li Z.,** Wei H., Wang S. (2024). Big data insights into urban park use in the pandemic: Changes in visitation patterns and exacerbated social inequalities in the U.S. *Cities*. <https://doi.org/10.1016/j.cities.2024.105204>
8. Shi F., Zhang J., Chen S., Yang X., **Li Z.,** Weissman S., Olatosi B., Li X., (2024) Multi-level factors associated with HIV late presentation with advanced disease and delay time of diagnosis in South Carolina, 2005-2019. *AIDS and Behavior*. <https://doi.org/10.1007/s10461-024-04414-y>
9. **Akinboyewa, T., Ning, H., Lessani, M. N., & Li, Z.*** (2024). Automated floodwater depth estimation using large multimodal model for rapid flood mapping. *Computational Urban Science*, 4(1), 12. <https://doi.org/10.1007/s43762-024-00123-3>
10. Wang S., Hu T., Huang X., Li Y., Zhang C., **Ning H.,** Zhu R., **Li Z.,** Ye X. (2024). GPT, large language models (LLMs) and generative artificial intelligence (GAI) models in geospatial science: a systematic review. *International Journal of Digital Earth*. <https://doi.org/10.1080/17538947.2024.2353122>
11. **Jiang Y.,** Popov A.A., **Li Z*.,** Hodgson M.E., Huang B., (2024). A Sensor-Based Simulation Method for Spatiotemporal Event Detection, *ISPRS International Journal of Geo-Information*. 13(5), 141; <https://doi.org/10.3390/ijgi13050141>
12. **Lessani M.N.** and **Li Z*.,** (2024). SGWR: Similarity and Geographically Weighted Regression, *International Journal of Geographical Information Science*, <https://doi.org/10.1080/13658816.2024.2342319>
13. Yu, M., Zhang, S., **Ning, H., Li, Z.,** & Zhang, K. (2024). Assessing the 2023 Canadian wildfire smoke impact in Northeastern US: Air quality, exposure and environmental justice. *Science*

- of *The Total Environment*, 171853. <http://dx.doi.org/10.1016/j.scitotenv.2024.171853>
14. **Jing F., Li Z., Ning H., Lessani N.**, Qiao S., Li X., (2024). From neighborhood contexts to human behaviors: Cellphone-based place visitation data contribute to estimating neighborhood-level depression prevalence in the United States, *Cities*. <https://doi.org/10.1016/j.cities.2024.104905>
 15. **Lessani M.N., Li Z***, Deng J., Guo Z., (2024). An MPI-based parallel genetic algorithm for multiple geographical feature label placement based on the hybrid of fixed-sliding models, *Geo-spatial Information Science*. <https://doi.org/10.1080/10095020.2024.2313326>
 16. **Li Z***, **Ning H., Jing F., Lessani M.N.** (2024) Understanding the bias of mobile location data across spatial scales and over time: a comprehensive analysis of SafeGraph data in the United States, *Plos One*. <https://doi.org/10.1371/journal.pone.0294430>
 17. Huang, X., Wang, S., Yang, D., Hu, T., Chen, M., Zhang, M., ... **Li, Z.**, & Hohl, A. (2024) Crowdsourcing Geospatial Data for Earth and Human Observations: A Review. *Journal of Remote Sensing*. <https://doi.org/10.34133/remotesensing.0105>
 18. Gao, G., Ye, X., Li, S., Huang, X., **Ning, H.**, Retchless, D., & **Li, Z.** (2024). Exploring Flood Mitigation Governance by Estimating First-Floor Elevation via Deep Learning and Google Street View in Coastal Texas, *Environment and Planning B: Urban Analytics and City Science*. 51(2), 296-313. <https://doi.org/10.1177/23998083231175>
 19. **Li Z***, Qiao, S., **Ning H.**, **Sun X.**, Zhang, J., Li, Z., Olatosi, B., Li, X. (2024). Place visitation data reveals the geographic and racial disparities of COVID-19 impact on HIV service utilization in Deep South. *AIDS and Behavior*. Volume 28, 47–60. <https://doi.org/10.1007/s10461-023-04163-4>
 20. **Lessani M.N., Li Z***, **Jing F.**, Qiao S., Zhang J., Olatosi B., Li X., (2023) Human mobility and the infectious disease transmission: A systematic review, *Geo-spatial Information Science*. 1-28. <https://doi.org/10.1080/10095020.2023.2275619>
 21. Yang, X., Zhang, J., Olatosi, B., **Li, Z.**, Weissman, S., & Li, X. (2023). Patterns and predictors of racial/ethnic disparities in HIV care continuum in the Southern USA: protocol for a population-based cohort study. *BMJ Open*, 13(12), e080521. <https://doi.org/10.1136/bmjopen-2023-080521>
 22. **Li Z***, **Huan N.** (2023). Autonomous GIS: the next-generation AI-powered GIS, *International Journal of Digital Earth*. <https://doi.org/10.1080/17538947.2023.2278895>
 23. Zeng C., Zhang J., **Li Z.**, Sun X., **Ning H.**, Yang X., Weissman S., Olatosi B., Li X, (2023) Residential segregation as a barrier to county level COVID-19 booster coverage in Deep South: Surveillance report and ecological study, *JMIR Public Health and Surveillance*. <https://doi.org/10.2196/44257>
 24. Shi F., Zhang J., Yang X., Sun X., **Li Z.**, Weissma S., Olatosi B., Li X., (2023) Understanding social risk factors of county-level disparities in COVID-19 tests per confirmed case in South Carolina using statewide electronic health records data, *BMC Public Health*. <https://doi.org/10.1186/s12889-023-17055-y>

25. Xu R., Huang X., Zhang K., Lyu W., Ghosh D., **Li Z.**, Chen X., (2023) Integrating human activity into food environments can better predict cardiometabolic diseases in the United States, *Nature Communications*. <https://doi.org/10.1038/s41467-023-42667-8>
26. Qiao, S., Zhang, J., **Li, Z.**, Olatosi, B., Weissman, S., & Li, X. (2023). The Impacts of HIV-Related Service Interruptions During the COVID-19 Pandemic: Protocol of a Mixed Methodology Longitudinal Study. *AIDS and Behavior*, 1-16. <https://doi.org/10.1007/s10461-023-04138-5>
27. **Jing, F.**, **Li, Z*.**, Qiao, S., **Ning, H.**, Zhou, S., & Li, X. (2023). Association between immigrant concentration and mental health service utilization in the United States over time: A geospatial big data analysis. *Health & Place*, 83, 103055. <https://doi.org/10.1016/j.healthplace.2023.103055>
28. Lu J., Huang X., Kupfer J., Xiao X., **Li Z.**, Wei H., Wang S., Zhu L., (2023). Spatial, temporal, and social dynamics in visitation to U.S. national parks: A big data approach. *Tourism Management Perspectives*. 48, 101143. <https://doi.org/10.1016/j.tmp.2023.101143>
29. **Shi, F.**, Zhang, J., Zeng, C., Sun, X., **Li, Z.**, Yang, X., ... & Li, X. (2023). County-level variations in linkage to care among people newly diagnosed with HIV in South Carolina: A longitudinal analysis from 2010 to 2018. *Plos one*, 18(5), e0286497. <https://doi.org/10.1371/journal.pone.0286497>
30. Wang, S*., **Ning, H*.**, Huang, X., Xiao, Y., Zhang, M., Yang, E. F., Sadahiro Y., Liu Y., **Li Z.**, Hu T., Fu X., Li Zi., Zeng, Y. (2023). Public surveillance of social media for suicide using advanced deep learning models in Japan: time series study from 2012 to 2022. *Journal of Medical Internet Research*, 25, e47225. <https://doi.org/10.2196/47225> (* these authors contributed equally)
31. Giannouchos, T. V., **Li, Z.**, Hung, P., Li, X., & Olatosi, B. (2023). Rural-Urban Disparities in Hospital Admissions and Mortality Among Patients with COVID-19: Evidence from South Carolina from 2021 to 2022. *Journal of Community Health*, 1-10. <https://doi.org/10.1007/s10900-023-01216-6>
32. Yang, Y., Chen, X., Gao, S., **Li, Z.**, Zhang, Z., & Zhao, B. (equal contribution among authors) (2023). Embracing geospatial analytical technologies in tourism studies. *Information Technology & Tourism*, 1-14. <https://doi.org/10.1007/s40558-023-00249-w>
33. Wang, S., Huang, X., She, B., & **Li, Z*.** (2023). Diverged landscape of restaurant recovery from the COVID-19 pandemic in the United States. *iScience*, 26(6). <https://doi.org/10.1016/j.isci.2023.106811>
34. **Ning H.**, **Li Z*.**, Qiao S., Zeng C., Zhang J., Olatosi B., Li X., (2023). Revealing geographic transmission pattern of COVID-19 using neighborhood-level simulation with human mobility data and SEIR model: A Case Study of South Carolina, *International Journal of Applied Earth Observation and Geoinformation*. <https://doi.org/10.1016/j.jag.2023.103246>
35. Wang S., Wang R., Huang X., **Li Z.**, Bao S., (2023). A GIS-based analytical framework for evaluating the effect of COVID-19 on the restaurant industry with big data. *Big Earth Data*. <https://doi.org/10.1080/20964471.2022.2163130>

36. Jin A., Chen X., Huang X., **Li Z.**, Caspi C., Xu R., (2023). Selective Daily Mobility Bias in the Community Food Environment: Case of Greater Hartford, Connecticut. *Nutrients*. 15(2), 404; <https://doi.org/10.3390/nu15020404>
37. **Shi F.**, Zhang J., YANG X., Sun X., **Li Z.**, Zeng C., **Ning H.**, Weissman S., Olatosi B., Li X. (2023). Moderation effect of community health on the relationship between racial/ethnic residential segregation and HIV viral suppression in South Carolina: a county-level longitudinal study from 2013 to 2018, *Frontiers in Public Health*. 10, 5297. <https://doi.org/10.3389/fpubh.2022.1013967>
38. **Jing F.**, **Li Z***, Qiao S., Zhang J., Olatosi B., Li X., (2023), Using geospatial social media data for infectious disease studies: a systematic review, *International Journal of Digital Earth*. 16(1). 130-157. <https://doi.org/10.1080/17538947.2022.2161652>
39. Huang X., Zhao B., **Li Z**, Bao S., Zhang S. (2023) Black businesses matter: A longitudinal study of black owned restaurants in the COVID-19 pandemic. *Annals of the American Association of Geographers*. 113(1). 189-205. <https://dx.doi.org/10.1080/24694452.2022.2095971>
40. Yang Y., Zhang L., Wu L., **Li Z.**, (2023) Does distance still matter? Moderating effects of distance measures on the relationship between pandemic severity and bilateral tourism demand, *Journal of Travel Research*, <http://dx.doi.org/10.1177/00472875221077978>
41. Kazemi M., **Li, Z.**, Hasanlu, S., Zare Naghadehi, S., & Hossein Haghi, V. (2022). Developing an integrated approach based on geographic object-based image analysis and convolutional neural network for volcanic and glacial landforms mapping. *Scientific Reports*, 12(1), 1-19. <https://doi.org/10.1038/s41598-022-26026-z>
42. **Jing F.**, **Li Z.**, Qiao S., Zhang J., Olatosi B., Li X., (2022), Investigating the relationships between concentrated disadvantage, place connectivity, and COVID-19 fatality in the United States over time, *BMC Public Health*. 22:2346. <https://doi.org/10.1186/s12889-022-14779-1>
43. **Cai R.**, Zhang J., **Li Z.**, Zeng C., Qiao S., Li X., (2022), Using Twitter Data to Estimate Prevalence of Mental Disorder Symptoms in the United States During the COVID-19 Pandemic: Ecological Cohort Study, *JMIR Formative Research*. 6(12). <https://doi.org/10.2196/37582>
44. **Jing F.**, Liu L., Zhou S., **Li Z.**, Song J., Wang L., Ma R., Lu J., Li X., (2022). Exploring large-scale spatial distribution of fear of crime integrating small sample surveys and massive street view images, *Environment and Planning B: Urban Analytics and City Science*. <https://doi.org/10.1177/239980832211356>
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Preprints (articles under review)

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167. Jiang Y., **Li Z.**, Kim J., **Ning H.**, Han S. (2024). Comparative Analysis of Human Mobility Patterns: Utilizing Taxi and Mobile (SafeGraph) Data to Investigate Neighborhood-Scale Mobility in New York City. arXiv. <http://dx.doi.org/10.48550/arXiv.2410.16462>
168. **Lessani, M. N., Li, Z.**, Qiao, S., **Ning, H.**, Aggarwal, A., Yuan, G. F., ... & Scott-Sheldon, L. A. (2024). Leveraging large language models for systematic reviewing: A case study using HIV medication adherence research. medRxiv, 2024-09. <https://doi.org/10.1101/2024.09.18.24313828>
169. **Ying, S., Li, Z.**, & Yu, M. (2024). Beyond Words: Evaluating Large Language Models in Transportation Planning. arXiv preprint arXiv:2409.14516. <https://doi.org/10.48550/arXiv.2409.14516>
170. Hohl, A., Wen, M., Wu, G., Zhang, Y., **Li, Z.**, & Su, D. Developing and validating an anti-Asian area racism index at the county level in the contiguous United States 2020-2021. <https://doi.org/10.31235/osf.io/n5tpw>

PRESENTATIONS (*graduate students or postdocs whose work I have supervised as advisor or committee member/mentor are underscored; presented by the first author unless otherwise noted*)

Forthcoming

1. Harnessing the power of Generative AI in GIScience. Virginia Tech Online Guest Lecture. March 5, 2025 (**Li Z., invited**)
2. Application of geospatial artificial intelligence in analysis on geospatial big data, Warsaw University of Technology, Poland, Invited Guest Lectures, June 9-12, 2025. (**Li Z., invited**)
3. GIS Copilot: Towards an Autonomous GIS Agent for Spatial Analysis. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (**Akinboyewa T., Li Z., Ning H., Lessani N**)
4. Understanding Urban Park Visitors' Pattern in New York City and the Growing Inequity Issues: A longitudinal Study with SafeGraph Foot Traffic Data. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (Chukwu M, Huang X., **Li Z.**)
5. Enhancing computational efficiency of the similarity and geographically weighted (SGWR) regression model and introducing its Python implementation. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (**Lessani N, Li Z.,**)
6. LLM-Find: An Autonomous GIS Agent Framework for Geospatial Data Retrieval and Downloading. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (**Ning H., Li Z., Akinboyewa T., Lessani N**)
7. Autonomous GIS: the next-generation AI-powered GIS. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (**Li Z., Ning H.**)
8. Comparative Analysis of Human Mobility Patterns: Utilizing Taxi and Mobile (SafeGraph) Data to Investigate Neighborhood-Scale Mobility in New York City. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (Jiang Y., Li Z., Kim JS., **Ning H.,** Han S)
9. Developing and validating an anti-Asian area racism index at the county level in the contiguous United States 2020 – 2021. AAG Annual Meeting, March 24 – 28, 2025, Detroit, Michigan (Hohl A., Wen M., Wu G., Zhang Y., **Li Z.,** and Su D.)

2025

1. A Mapping Toolkit for Built Environment Auditing Based on Street View Imagery. 6th National Big Data Health Science Conference, February 13-14, 2025, Columbia, South Carolina (**Ning H., Li Z**)
2. Smartphone-based place visitation data better explain neighborhood-level coronary heart disease in the United States. 6th National Big Data Health Science Conference, February 13-14, 2025, Columbia, South Carolina (**Akinboyewa T, Li Z., Ning H, Lessani N,** Holmes L, Qiao S.)
3. Using ChatGPT-4 in literature review: A validation pilot study in the areas of HIV medicine adherence, February 13-14, 2025, Columbia, South Carolina (**Lessani N, Li Z.,** Qiao S, **Ning H,** Aggarwal A, Yuan G., Pasha A.)

4. Autonomous GIS: the next-generation AI-powered GIS. The 14th ISDE International Lectures, January 21, 2025, Webinar, International Society for Digital Earth (**Li Z., invited**)
5. Using place visitation big data to improve health measure estimation at the census tract level, January 23, 2025, Webinar, Social, Behavioral, and Economic COVID Coordinating Center, University of Michigan (**Li Z., invited**)

2024

6. Harnessing Geospatial Big Data and AI for GIScience Innovations, Penn State GIS Day, November 18, 2024, Paterno Library, University Park, PA (**Li Z.**)
7. GIS Copilot: Towards an autonomous GIS agent for spatial analysis, Penn State GIS Day, November 18, 2024, Paterno Library, University Park, PA (**Akinboyewa T., Li Z., Ning H., Lessani N.**)
8. Estimating Hourly Neighborhood Population Using Mobile Phone Data, Penn State GIS Day, November 18, 2024, Paterno Library, University Park, PA (**Ning H., Li Z.**)
9. Enhancing the computational efficiency of similarity and geographically weighted regression model using Message Passing Interface, Penn State GIS Day, November 18, 2024, Paterno Library, University Park, PA (**Lessani N., Li Z.**)
10. GIS Copilot: Towards an Autonomous GIS Agent for Spatial Analysis, 2024 Middle States AAG Regional Meeting, Nov. 1 -2, 2024. West Chester, PA (**Akinboyewa T., Li Z., Ning H., Lessani N.**)
11. Enhancing computational efficiency of the similarity and geographically weighted (SGWR) regression model and introducing its Python implementation, 2024 Middle States AAG Regional Meeting, Nov. 1 -2, 2024. West Chester, PA (**Lessani N., Li Z.**)
12. Autonomous GIS: the next-generation AI-powered GIS, The 31st International Conference on Geoinformatics, August 14 – 16, 2024. Toronto, Canada. (**Li Z., Huan Ning**)
13. Developing a Novel Wheelchair Mobility Index for Wheelchair Users using Street View Imagery and Artificial Intelligence, National Neighborhood Data Archive (NaNDA) Summer Workshop, August 14, 2024. Institute for Social Research, Ann Arbor, MI. (**Ning H., Li Z.**)
14. Leveraging large language models for systematic reviewing: A case study using HIV medication adherence research. IAS 2024, The 25th International AIDS Conference, July 22 - 26, 2024, Munich, Germany, and virtually (**Li Z., virtual**) (**invited**)
15. Integrating human activity into food environments can better predict cardiometabolic diseases in the United States, International Medical Geography Symposium (IMGS), Atlanta, July 14-19, 2024. (Chen X., Huang X., Zhang K., Caspi C., Lyu W., Ghosh D., **Li Z., Xu R.**)
16. Social Sensing and Geospatial Big Data Computing for Disaster Management, The

International GeoInformatics Summer School (IGSS), June 24-27, 2024, Wuhan, China.
(Li Z., invited)

17. Autonomous GIS: the next-generation AI-powered GIS, CGA 2024 Conference at Harvard, May 16-17, 2024, Cambridge, MA **(Li Z.)**
18. Identifying Racism Using Artificial Intelligence with Social Media Data, 2024 Academy Health Meeting, June 29 - July 2, 2024 in Baltimore, MD (Hung P., Zhang J., Ma Y. **Li Z.**, Tucker C.) (Selected as the Best Poster to be featured throughout the conference.)
19. Impacts of Residential Segregation on Unplanned Emergency Visits and Hospital Admissions in Patients from Communities Served By a Large Healthcare System, 2024 Academy Health Meeting, June 29 - July 2, in Baltimore, MD (Zeng C., **Lessani N.**, ... **Li Z.**)
20. Autonomous GIS: the next-generation AI-powered GIS, 2024 AGI Leap Summit, July 22, 2024, online **(Li Z.) (invited)**
21. Estimating hourly neighborhood population based on smartphone-based human mobility data, AAG Annual Meeting, April 16 - 20, 2024, Honolulu, Hawaii. (**Ning H.**, **Li Z.**, Yu M.)
22. Using smartphone-based place visitation big data to improve health measure estimation, AAG Annual Meeting, April 16 - 20, 2024, Honolulu, Hawaii. (**Akinboyewa T.**, **Ning H.**, **Li Z.**)
23. Optimizing Geographical Weights in GWR Model by Incorporating Neighborhood Characteristics, AAG Annual Meeting, April 16 - 20, 2024, Honolulu, Hawaii. (**Lessani N.**, **Li Z.**)
24. Association Between Immigrant Concentration and Mental Health Service Utilization in the United States Over Time: A Geospatial Big Data Analysis, 5th National Big Data Health Science Conference, February 2-3, 2024, Columbia, South Carolina (**Li Z.**, **Jing F.**, **Ning H.**, Qiao S., Li X.)
25. Estimating Hourly Neighborhood Population Using Mobile Phone Data, 5th National Big Data Health Science Conference, February 2-3, 2024, Columbia, South Carolina (**Ning H.**, **Li Z.**, Yu M.)
26. Using ChatGPT-4 in literature review: A validation pilot study in the areas of HIV medicine adherence, February 2-3, 2024, Columbia, South Carolina (**Lessani M.N.**, **Li Z.**, Qiao S., **Ning H.**, Aggarwal A., Yuan G., Pasha A.)
27. Multi-Level Risk Factors of Late Presentation with Advanced HIV Disease and Delay Time, 2005-2019, Conference on Retroviruses and Opportunistic Infections (CROI), March 3 - 6, 2024, Denver, Colorado. (Shi F., Zhang J., Chen S., Yang X., **Li Z.**)
28. Association of structural racism and other social determinants of health with HIV late presentation: A county-level analysis in Southern United States, AIDS 2024, the 25th International AIDS Conference, Munich, Germany, July 22-26, 2024. (Shi F., Zhang J., Chen S., Yang X., **Li Z.**, Weissman S., Olatosi B., Li X.)

29. Guest lecture: Social Sensing and Big Data Computing for Disaster Management, in GEOG 497: Weather Risk (Instructor: Dr. Helen Greatrex), Feb. 12, 2024

2023

30. Activity-based food environment and cardiometabolic health: A national observational study, APHA 2023 Annual Meeting and Expo, Nov. 12 - 15, 2023, Atlanta. (Xu R., Huang X., Zhang K., Lyu W., Caspi C., Ghosh D., **Li Z.**, Chen X.)
31. Using Mobile Location Big Data to Improve Health Measure Estimation, SBE CCC 2023 Annual Meeting, September 20-21, 2023, Washington DC. (**Li Z.**)
32. Harnessing Geospatial Big Data and Spatial Computing for GIScience Innovations, Seminar, Wuhan University, July 16, 2023 (**Li Z.**) (**invited**)
33. Social Sensing and Geospatial Big Data Computing for Disaster Management, The International Geoinformatics Summer School (IGSS), June 24-27, 2023, Wuhan, China. (**Li Z.**, **invited**)
34. Measuring Human Mobility with Big Geosocial Data: Challenges and Approaches, The 3rd ISDE International Lectures, March 21, 2023. (**Li Z.**) (**invited**)
35. Estimating first floor elevation for building flooding risk assessment using street view image, AAG Annual Meeting, March 23-27, 2023, Denver. (**Ning H.**, **Li Z.**, Ye X.)
36. A census-tract level examination of the association between immigrant proportions and mental health service utilization in the United States from 2019 to 2021. AAG Annual Meeting, March 23-27, 2023, Denver. (**Jing F.**, **Li Z.**, Qiao S.)
37. Residential segregation as a barrier to covid-19 booster coverage in deep south, Conference on Retroviruses and Opportunistic Infections (CROI), February 19-22, 2023, Seattle, Washington (Zeng C., Zhang J., **Li Z.**, Sun X., **Ning H.**, Yang X., Weissman S., Olatosi B., Li X., Liang C.)
38. A parallel genetic algorithm for multiple geographical features label placements. AAG Annual Meeting, March 23-27, 2023, Denver. (**Lessani N.**, **Li Z.**)
39. Sentiment Analysis of Swedish and Finnish Twitter Users' Views Toward NATO Pre- and Post- 2022 Russian Reinvasion of Ukraine. AAG Annual Meeting, March 23-27, 2023, Denver. (**Fulham A.**, **Ning H.**, **Li Z.**)
40. A universal framework for object localization and measurement based on street view imagery data, AAG Annual Meeting, March 23-27, 2023, Denver. (**Ning H.**, **Li Z.**)
41. Spatiotemporal analysis of anti-Asian hate on social media in the United States, AAG Annual Meeting, March 23-27, 2023, Denver. (Hohl A., Horse A., Median R., Wan N., Wen M., Huang X., **Li Z.**)
42. Black Business Matter: A Longitudinal Study of Black-Owned Restaurants in the COVID-19 Pandemic Using Geospatial Big Data, AAG Annual Meeting, March 23-27, 2023, Denver. (Huang X., Bao X., **Li Z.**, Zhang S., Zhao B.)

43. Using Social Media and Place Visitation Data for Public Health Research: Applications, Challenges, and Innovation Opportunities, 4th Annual National Big Data Health Science Conference, Feb. 10-11, 2023, Columbia, SC (**Li Z.**)
44. Using smartphone-based place visitation big data to improve health measure estimation, 4th Annual National Big Data Health Science Conference, Feb. 10-11, 2023, Columbia, SC (**Ning H., Li Z., Jing F.**)
45. Disparities in mental health service utilization among immigrants in the US : A geospatial big data analysis, 4th Annual National Big Data Health Science Conference, Feb. 10-11, 2023, Columbia, SC (**Jing F., Li Z., Qiao S.**)
46. Place visitation data reveals the geographic and racial disparity of COVID-19 impact on HIV facility utilization in Deep South, 4th Annual National Big Data Health Science Conference, Feb. 10-11, 2023, Columbia, SC (Qiao S., **Li Z., Ning H.**)

2022

47. Using mobile device data to track the effects of the COVID-19 pandemic on spatiotemporal patterns of national park visitation, 77th Annual Meeting of the Southeastern Division of the AAG. Atlanta, Georgia, November 20-21, 2022 (Kupfer J., **Li Z., Ning H.,** Huang X.)
48. Place visitation data reveals the geographic and racial disparity of COVID-19 impact on HIV facility utilization in Deep South, The 150th APHA Annual Meeting, Boston, MA, Nov 6-9, 2022. (**Li Z.,** Qiao S., **Ning H.,** Zhang J., Olatosi B., Li X)
49. Association of county-level social vulnerability with COVID-19 testing: The case of South Carolina in the United States, The 150th APHA Annual Meeting, Boston, MA, Nov 6-9, 2022. (Shi F., Zhang J., Olatosi B., **Li Z.,** Li X)
50. Integrating human mobility data with SEIR model to analyze COVID-19 spreading in South Carolina, The 150th APHA Annual Meeting, Boston, MA, Nov 6-9, 2022. (**Ning H., Li Z.,** Qiao S., Zhang J., Olatosi B., Li X)
51. Sidewalk extraction based on street view image, The 29th International Conference on Geoinformatics, Aug. 15-18, Beijing. (**Ning H., Li Z.,** Wang C., Hodgson M., Huang X., Li X.; Online)
52. Place connectivity moderates the association between concentrated disadvantage and COVID-19 deaths in the contiguous US, The 29th International Conference on Geoinformatics, Aug. 15-18, Beijing. (**Jing F., Li Z.,** Qiao S., Zhang J., Olatosi B., Li X.; Online)
53. Using Social Media Big Data for Public Health: A Geospatial Perspective, BDHSC Webinar for R25 fellows, July 26, 2022. (**Li Z.**) (**invited**)
54. Modeling Place-Place Connectiveness with Social Media, MobiLab Seminar Series: Doing Digital Humanities, University of Padua, Italy, Spring 2022 (by **Li Z.** and Hodgson M.) (**invited**)

55. Converting street view images to land cover maps for metric mapping using AI: a case study on sidewalk network extraction for the wheelchair users, AAG Annual Meeting, Feb. 25-Mar. 1, 2022, New York City (**Ning H., Li Z.,** Wang C., Hodgson M., Huang X., Li X.)
56. Event detection method with principal component analysis-based sensor placement, AAG Annual Meeting, Feb. 25-Mar. 1, 2022, New York City (**Jiang Y.,** Popov A., **Li Z.**)
57. Measuring Human Mobility Dynamics and Place Connectivity Using Big Social Media Data, AAG Annual Meeting, Feb. 25-Mar. 1, 2022, New York City (**Li Z.**)
58. Spatiotemporal changes in visitation to U.S. national parks and associated social inequity: A big data approach, AAG Annual Meeting, Feb. 25-Mar. 1, 2022, New York City (Lu J., Huang X., Kupfer, Xiao X., **Li Z.**)
59. CyberGIS-enabled spatial epidemiology, Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS, AAG Annual Meeting, Feb. 25-Mar. 1, 2022, New York City (**Li Z.**) (**invited** panelist presentation)

2021

60. An analytical framework to evaluate the effect of COVID-19 on the restaurant industry: a study of New York City, International symposium on Geospatial approaches to combating Covid-19, ICC 2021, Dec.13-14, 2021, Florence, Italy (Wang S., Wang R., Huang X., and **Li Z.**)
61. Measuring Human Mobility Dynamics and Place Connectivity Using Big Social Media Data, 2021 SEDAAG Annual Meeting, Florence, Alabama, Nov 21-22, 2021 (**Li Z.**)
62. Big Social Media Analytics for Disaster Management: Approaches and Applications, The 28th International Conference on Geoinformatics (online), November 02-05, 2021 (**Li Z.**) (**invited**)
63. Rapid Response to Emerging Public Health Threats: Measuring human mobility using Twitter data, Geoinformatics 2021 (CPGIS Annual Conference, pre-conference, online), Oct. 31, 2021 (**Li Z.**) (**invited**)
64. Evolving risk perceptions of COVID-19 and socioeconomic correlates in the United States: A social media analysis, American Public Health Association (APHA) Annual Meeting, Oct 24-27, Denver, CO, US (Qiao S., **Li Z.,** Liang C., Rudisill C. Li X.)
65. Spatial-temporal relationship between population mobility and COVID-19 outbreaks in South Carolina: A time series forecasting analysis, American Public Health Association (APHA) Annual Meeting, Oct 24-27, Denver, CO, US (Zeng C., Zhang J., Li Z., Sun X., Yang X., Olatosi B., Weissman S., Li X.)
66. Geospatial difference in linkage to care among HIV population in South Carolina from 2010 to 2016: A county-level longitudinal analysis, American Public Health Association (APHA) Annual Meeting, Oct 24-27, Denver, CO, US (Shi F., Zhang J., **Li Z.,** Zeng C., Sun X., Olatosi B., Weissman S., Li X.)

67. Dynamic relationship between population mobility and COVID-19 incidence in South Carolina: Practical application of time-varying effect model to surveillance data, American Public Health Association (APHA) Annual Meeting, Oct 24-27, Denver, CO, US (Zeng C., Zhang J., **Li Z.**, Sun X., Olatosi B., Weissman S., Li X.)
68. Urban-regional disparities in mental health signals in Australia during the COVID-19 pandemic: a study via Twitter data and machine learning models, The Regions, Economy and Society in the Post-Covid World Online Conference, Friday, 17 September 2021 (Wang S., Liu Y., **Li Z.**, Huang X., Hu T.)
69. Measuring Human Movement Using Big Social Media Data, COVID Information Commons Webinar, Northeast Big Data Innovation Hub, August 18, 2021 (**invited**)
70. Big Social Media Data to measure place connectivity and human mobility dynamics. IJGI Webinar on "Social Computing for Geographic Information Science", Institute for Research on Population and Social Policies, Italy National Research Council, July 9, 2021 (**Li Z.**) (**invited**)
71. Measuring Human Mobility Dynamics and Place Connectivity Using Big Social Media Data, Oak Ridge National Laboratory GSHS Division Director Seminar Series, June 24, 2021 (**Li Z.**) (**invited**)
72. Fighting the Pandemic with Big Movement Data: Our Approaches, AAG Annual Conference, Online, April 7-10, 2021 (**Li Z.**)
73. Panelist on the AAG Panel on Spatiotemporal Sciences (along with Michael Batty, Kathleen Stewart, Xun Shi, Laura Cline), AAG Annual Meeting, April 7-10, 2021 (**Li Z.**) (**invited**)
74. Measuring place connectivity using big social media data, CPGIS Educational Webinar Series on Spatiotemporal Study of Urban Dynamics, Mar 25, 2021, (**Li Z.**) (**invited**)
75. Monitoring the Spatial Spread of COVID-19 and Effectiveness of the Control Measures through Human Movement using Big Social Media Data, SC Big Data Health Science Center Conference 2021, Feb. 05, 2021 (**Li Z.**)
76. Using Big Movement Data in the Pandemic: Methods and Applications, MDPI Webinar on GIS and Remote Sensing, Jan. 16, 2021 (**Li Z.**) (**invited**)

2020

77. Fighting the COVID-19 Pandemic with Big Movement Data, The 1st Renmin University of China (RUC) Workshop on AI for Social Good, 12/19/2020, (**Li Z.**) (**invited**),
78. Contextual factors with county-level retention in care status among people living with HIV in South Carolina from 2005 to 2016, APHA's 2020 Annual Meeting and Expo, Oct. 24 – 28, 2020, San Francisco, CA, US (Zeng C, Zhang J., Sun X., **Li Z.**, Weissman S., Olatosi B., Li X.)
79. Using Social Media to Monitor the Spatial Propagation of COVID-19, South Carolina SmartState Center for Healthcare Quality (CHQ) Seminar, September 18, 2020 (**Li Z.**)

(invited)

80. Following the Pandemic on Twitter: A Big Data Approach, CAS Public Online Events, July 28, 2020 (**Li Z.**) (Webinar, **invited**)
81. Social Sensing and Big Data Analytics: from Disaster Management to Public Health, Webinar on Robotics, AI& Big Data and Smart Materials & Nanotechnology, July 20, 2020 (**Li Z.**) (**invited**, online)
82. Disaster Management based on Social Sensing Big Data Computation, Online Guest Lecture, Wuhan University, July 6, 2020 (**Li Z.**) (**invited**)
83. Social Media (Twitter) Big Data, Human Mobility, and COVID-19, Webinars on Data, Tools and Literature Study, July 1, 2020 (**Li Z.**) (**invited**), ppt available at Harvard Dataverse: doi:10.7910/DVN/5PRYPC/SUYWJ2
84. Towards real-time population estimates: introducing Twitter daily estimates of residents and non-residents at the county level, 2020 Annual Meeting of the Population Association of America, April, 22 – 25, 2020 in Washington, DC, US (**Martin Y., Li Z., Ge Y.**) (virtual presentation)
85. Understanding Human Dynamics During Disasters with Geospatial Big Data Analytics and Computing, South Carolina Association for Hazard Mitigation Conference, Greenville, SC, March 2-4, 2020 (**Li Z.**) (**invited**)
86. Social Sensing and Big Data Computing: from Disaster Management to Public Health, Spring Seminar Series, Department of the Environmental Health Sciences, USC, February 19, 2020 (**Li Z.**) (**invited**)
87. Leveraging Social Media Data for Disaster Management: Challenges and Applications, National Big Data Health Science Conference, February 9-11, 2020 (**Li Z.**)

2019

88. Social Sensing and Big Data for Disasters, China University of Petroleum, Nov. 25, 2019. (**Li Z.**) (**invited**)
89. Social Sensing and Big Data Computing for Disaster Management: Challenges and Solutions, State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, China, July 17, 2019 (**Li Z.**) (**invited**)
90. Using Social Media Analytics for Enhancing Situational Awareness, Institute of Remote Sensing and Digital Earth, Beijing, China, June 20, 2019 (**Li Z.**) (**invited**)
91. A Scalable Online Visual Analytic System for Big Climate Data Analysis, ESIP Cloud Computing Group Webinar (lightning talk), May 5, 2019 (**Li Z.**)
92. Using existing data to build customized deep learning training datasets for remote sensing image classification, AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Li Z., Ning H**)

93. Social Sensing and Big Data Computing for Disaster Management (Panel Introductory Talk), AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Li Z.**)
94. Social Media for Disaster Management (presentation in the Social Media Analytics Tool Development Panel), AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Li Z.**) (**invited**)
95. Analyzing Human Mobility Patterns during Hurricane Matthew Evacuation using Twitter, AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Jiang Y., Li Z.**)
96. Language and Twitter-based Social Media During Disaster Events, AAG Annual Meeting, Washington DC, April 3-7, 2019 (Hodgson M., **Li Z.**, Piovan S., Koylu C.)
97. Identifying disaster-related social media for rapid response: a visual-textual fused approach, AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Huang X., Li Z., Wang C.**)
98. Tracking the Disruption of Hurricane Maria on Population Movements in Puerto Rico Through Geotagged Tweets, AAG Annual Meeting, Washington DC, April 3-7, 2019 (**Martin Y.,** Cutter S.L., **Li Z.,** Emrich C., Mitchell J.)

2018

99. Web-based GIS tools and applications in Public Health, November 27, 2018, Arnold School of Public Health, USC (**Li Z.**) (**invited** guest lecture)
100. High performance computing for geospatial big data analytics, November 9, 2018, Department of Geography & Earth Sciences, University of North Carolina at Charlotte (**Li Z.**) (**invited** colloquium talk)
101. Big data, social media and evacuation, *New Generation GIS Workshop*, October 11, 2018, Center for Geographic Analysis, Harvard University, (**Li Z.**) (**invited**)
102. Geospatial Big Data: Challenges, Opportunities, and Applications, *2018 GIS Day at USC* November 14, 2018 (**Li Z.**)
103. Measuring inter-city network using digital footprints from Twitter users, *ACM SIGSPATIAL International Workshop on PredictGIS*, 11/06/2018, Seattle, Washington (**Jiang Y., Li Z., Ye X.**).
104. Neighborhood characteristics and activity space: a new application of social media data, 58th Annual ACSP Conference, October 25-28, 2018, Buffalo, New York (Hu L., **Li Z., Ye X.**)
105. SCOVAS: A Scalable Climate Online Visual Analytical System, *AAG Annual Meeting* April 10-14, 2018, New Orleans, Louisiana (**Li Z., Huang Q., Hu F.**)
106. Understanding Evacuation Decision based on Twitter Network, *AAG Annual Meeting* April 10-14, 2018, New Orleans, Louisiana (**Jiang Y., Li Z.**)
107. Build customized deep learning training dataset for remote sensing image

classification, *AAG Annual Meeting*, April 10-14, 2018, New Orleans, Louisiana (**Huan N., Li Z.**, presented by Li Z.)

108. The Use of Social Media in Guiding Satellite Image Collection During Disaster Events, *AAG Annual Meeting*, April 10-14, 2018, New Orleans, Louisiana (Michael H., **Li Z.**, Piovon S., Davis B.)
109. A Flooding Probability Reconstruction Approach by Enhancing Near Real-Time (NRT) Imagery with Real-Time (RT) Data, *AAG Annual Meeting*, April 10-14, 2018, New Orleans, Louisiana (**Huang X.**, Wang C., **Li Z.**)
110. Plenary talk: Social Media and Big Data Computing for Disaster Management, *South Carolina Association for Hazard Mitigation (SCAHM) Annual Conference*, March 12-14, 2018, Hilton Head Island, SC (**Li Z.**) (**invited**)
111. Using Twitter to Monitor Evacuation Behavior in Matthew. National Hurricane Conference. Orlando, FL, March 25-29, 2018. (**Martín Y., Li Z.**, and Cutter S.L.)

2017

112. Social Media, Human Movement, and the Eclipse, *Public Mini-lecture on the Eclipse at Russel House Theater*, August 21, 2017, USC (**invited**, co-presented with Jiang Y.)
113. Enhancing Situational Awareness by Mining Big Social Media Data in Near-real Time for Disaster Management, *3rd World Congress on GIS and Remote Sensing*, September 20 - 21, 2017, Charlotte, NC. (**invited**)
114. A Cloud-based Spatial Web Portal for Big Earth Data Visual Analytics (in Research as Art session, poster presentation), *ESIP Summer Meeting*, July 25-28, 2017, Bloomington, IN.
115. A Scalable Online System for Parallel Query Analytics on Big Climate Data, *The 28th International Cartographic Conference*, July 2-7, 2017, Washington DC
116. Computing and GIScience, *Seminar at the Department of Computing Sciences*, Coastal Carolina University, Conway, SC, June 26, 2017 (**Li Z.**)(**invited**)
117. Mining Big Twitter Data to Enhance Disaster Situational Awareness, *Seminar at South Carolina SmartState Center for Health Care Quality*, Columbia, SC, April 28, 2017 (**Li Z.**) (**invited**)
118. Geospatial Big Data Analytics with High Performance Computing, *Symposium on Research Computing Infrastructure*, April 14, 2017, University of South Carolina (**Li Z.**)
119. A General-purpose Framework for Parallel Processing of Large-scale LiDAR Data, *AAG Annual Meeting*, Boston, Massachusetts, April 05-09, 2017 (**Li Z.**, Hodgson M., Li W.)
120. Leveraging Twitter to gauge evacuation compliance: spatiotemporal analysis of Hurricane Matthew, *AAG Annual Meeting*, Boston, Massachusetts, April 05-09, 2017 (**Martin Y.**, Li Z., Cutter S., presented by Martin Y.)
121. ClimateSpark: An In-memory Distributed Computing Framework for Big Climate Data

Analytics, *AAG Annual Meeting*, Boston, Massachusetts, April 05-09, 2017 (Hu F., Yang C., Xu M., **Li Z.**, Schnase J., Duffy D., Bowen M.)

122. Exploring Traffic Patterns Using Twitter Data: A Case Study in Chicago. 2017 UCGIS Symposium, May 23-25, 2017. Arlington, VA (Poster presentation by Liu Z., Wei C., Zhang W., Zou T., **Li Z.**)
123. Geospatial assessment of flooding dynamics and risks of the October'15 South Carolina Flood, *The 25th International Conference on Geoinformatics*, Aug 2-4, 2017, Buffalo, NY, US (Wang C., **Li Z.**, **Huang X.**)
124. A Near Real-time Flood Mapping Approach by Integrating Post-event with Satellite Imagery and Flood-related Tweets, *The 25th International Conference on Geoinformatics*, Aug 2-4, 2017, Buffalo, NY, US (**Huang X.**, Wang C., **Li Z.**)
125. Exploiting Twitter to estimate evacuation rates: A spatiotemporal analysis of Hurricane Matthew. Week of Geography. Zaragoza, 2017. Department of Geography, University of Zaragoza. (**Martín, Y.**, **Li, Z.**, Cutter, S.L.)

2016

126. A General-purpose Framework for Parallel Processing of Large-scale LiDAR Data, AGU Fall Meeting, San Francisco, CA, December 12-16, 2016 (**Li Z.**, Hodgson M., Li W.)
127. ClimateSpark: An In-memory Distributed Computing Framework for Big Climate Data Analytics, AGU Fall Meeting, San Francisco, December 12-16, 2016 (Hu F., Yang C., Duffy D., Schnase J., **Li Z.**)
128. A High Performance Spatiotemporal Query Analytical Framework for Large-scale Climate Data Analysis, SEDAAG Annual Meeting, Columbia, SC, November 20-22, 2016 (**Li Z.**, Huang Q., Carbone G., Hu F.)
129. Leveraging Social Media for Rapid Mapping of 2015 South Carolina Floods, SC Floods Conference, November 18, Columbia, SC (**Li Z.**, Wang C., Emrich C., Guo D.)
130. A Computational Framework for Tracking Reports, Opinions, and Feelings of People in Social Media Before, During and After a Natural Disaster, SC Floods Conference, November 18, Columbia, SC (Karami A., **Li Z.**)
131. BigQuery: Parallel Query Analytics of Big Climate Data, 2016 International Workshop on Cloud Computing and Big Data, Fairfax, Virginia, July 26 – 27, 2016 (**invited**)
132. Rapid Flood Mapping with Social Media and Remote Sensing. South Carolina October '15 Flood Workshop Understanding the Path to Resilience, Adaptation, and Recovery, Columbia, SC, June 15, 2016. (**Li Z.**, Wang C., Emrich C., Guo D.)
133. Remote Sensing of Flooding Dynamics, Congaree River Watershed. South Carolina October '15 Flood Workshop Understanding the Path to Resilience, Adaptation, and Recovery, Columbia, SC, June 15, 2016. (Wang C., **Li Z.**, Emrich C.)

134. Panelist, "HPC and Big Data Challenges at USC" session at the Symposium on Research Computing Infrastructure. USC, April 15, 2016. **(invited)**

2015

135. A spatiotemporal indexing approach for efficient process of big array-based climate data with MapReduce. International Symposium on Spatiotemporal Computing, Fairfax, Virginia, July 13-15, 2015 (**Li Z.**, Hu F., Schnase J., Yang C.)
136. Enabling the acceleration of dust simulation using job scheduling method in a cloud environment, Geocomputation, May 20-23, 2015, Richardson, Texas, US. (Yu M., Yang C., and **Li Z.**)
137. An Index for Efficient Retrieval and Process of Big Array-based Geospatial Data in Hadoop Distributed File System, AAG Annual Meeting, Chicago, IL. April 21 - 25, 2015 (Hu F., **Li Z.**, and Yang C.)
138. Enabling Big Climate Data Processing with a Cloud-based Workflow Framework. AAG Annual Meeting, Chicago, IL. April 21 - 25, 2015 (**Li Z.**, Yang C.)
139. Cloud Computing for Geospatial Data Sciences. 2015 Unidata Users Workshop, Boulder, Colorado. June 22-25, 2015 **(invited)**
140. A Columnar Storage Strategy with Spatiotemporal Index for Big Climate Data, AGU Fall Meeting. December 14-18, 2015, San Francisco, CA (Hu F., Bowen M., **Li Z.**, Schnase J., Duffy D., Lee T., and Yang C., poster presentation)
141. Cloud-based, workflow-enabled and service-oriented scientific workflow framework. ESIP Winter Meeting, Washington DC. January 06-09, 2015 **(invited)**

2014

142. A MapReduce-enabled Framework for Processing Big Climate Data, AAG Annual Meeting, Tampa, FL. Apr. 8-12, 2014 (**Li Z.**, Yang C., Liu K.)
143. Keynote: Cloud Computing for Geosciences. ESIP Summer Meeting, Frisco, CO. Jul. 8-11, 2014 **(invited)**

2013

144. Climate@Home: Citizen Science for Climate Change (Robert Raskin Mashup Mapping Student Competition), AAG Annual Meeting, Los Angeles, CA. April 9-13, 2013 (**Li Z.**, Sun M., Jiang Y., Liu K.)
145. A High Performance Web-Based System for Analyzing and Visualizing Spatiotemporal Data for Climate Studies, AAG Annual Meeting, Los Angeles, CA. Apr. 9-13, 2013 (**Li Z.**, Yang C., Sun M., Li J., Xu C., Huang Q., & Liu K.)

146. Using MapReduce and cloud computing to support geospatial processing, AAG Annual Meeting, Los Angeles, CA. Apr. 9-13, 2013 (Huang Q., **Li Z.**, Yang C.)

147. Using Semantic Web to Optimize the Discovery, Access, and Utilization of Big Geospatial Data, Virtual Semantic Web Workshop, May 7, 2013 (Yang C., Liu K., Xia J., Gui Z., **Li Z.**, Xu C.)

2011

148. The GEOSS Clearinghouse High Performance Search Engine, the 19th International Conference on Geoinformatics, Shanghai, China, June 24-26, 2011. (Liu K., Yang C., Li W., **Li Z.**, Wu H., Rezgui A., and Xia J.)

2010

149. Metadata Standards in GEOSS Clearinghouse, ESIP Summer Meeting, Knoxville, TN, July 20-23, 2010 (Liu K., Yang C., Wu H., Li W., **Li Z.**, Miao L., Huang Q.)

150. Seamless Integration and Visualization of Heterogeneous and Distributed Earth Science Data Using Bing Map, ESIP Summer Meeting, Knoxville, TN, July 20-23, 2010 (Wu H., Yang C., **Li Z.**, Qu X., Xu Y.)

151. Spatial Web Service Evaluator for Supporting Spatial Web Portal, July 20-23, 2010, ESIP Summer Meeting, Knoxville, TN (Li J., Yang C., Wu H., **Li Z.**, Sun M., Otunba R.)

152. Quality-supported architecture for Geospatial Information Service, AAG meeting, Washington, DC Apr. 14-18, 2010 (Wu H., **Li Z.**, Yang C.,)

153. Cloud Computing for Earth Science –Parallelize and schedule spatial computing for WRF-NMM model (Best student presentation, 2nd place), AAG Annual Meeting, Washington, 14-18 April 2010 (Huang Q., Yang C., Wu H., Xie J., Li J., **Li Z.**, Sun M.)

2009

154. Application Composition based on WMS Layers for Supporting Spatial Data Infrastructure, AGU Fall Meeting, San Francisco, CA, Dec 14-16, 2009 (**Li Z.**, Wu H., Yang C.)

155. Real-time Monitoring of WMS Quality for Optimized Map Composition with Distributed WMS Layers, AGU Fall Meeting, San Francisco, CA, Dec 14-16, 2009 (Wu H., **Li Z.**, Yang C.)

156. Water and Energy Cycle EOS House web portal (WECHO), AAG meeting, Las Vegas, NV. Mar. 22-27, 2009 (**Li Z.**, Huang Q., Li W. Zhu H., Yang C., Houser P., Larko M.)

2008

157. Earth Information Exchange: sharing the geospatial resources for Earth science and

applications in an interoperable fashion, AAG meeting, Boston, Apr.18-23, 2008 (Li Z., Yang C., Li W., Li J., Huang Q., Zhou X.)

158. Sharing earth science information to support the global earth observing system of systems (GEOSS), IGARSS 2008, Boston, Massachusetts, July 7 (Bambacus M, Yang C., Evans J., Li Z., Li W., Huang Q, presented by Bambacus M)

159. Portal & Interoperability: share ESG Portlets to support EIE through JSR 1/268 & WSRP (Yang C., Li Z., Li W.)

160. Geo-visualization for Geosciences data in World Wind. 2008 AGU Fall Meeting. (Li, J., Li, Z., Xie, J., Huang, Q., Li, W., & Yang, C.)

161. The WECHO project, presented at ESIP summer meeting, July 17, 2008, New Hampshire. (Houser, P. R., Yang C., Li Z., Larko M.)

162. Water Cycle ECHO Client, presented at ESIP summer meeting, July 17, 2008, New Hampshire. (Zhu H., Li Z.)

TEACHING AND ADVISING

Courses Taught

Penn State

- GEOG 260 Geographic Information in a Changing World: Introduction to GIScience (97 students; Fall 2024)
- GEOG 560 Seminar in Geographic Information Science (Spring 2025)
- GEOG 363 Geographic Information Systems (Fall 2025, forthcoming)

USC

- GEOG 363 *Introduction to Geographic Information Systems* (Spring 2016, Fall 2017, Spring 2018, Spring 2019, Fall 2020, Spring 2021; Fall 2021; Spring 2022)
- GEOG 531 *Quantitative Methods in Geographic Research* (Fall 2015, Fall 2019, Fall 2021, Fall 2023)
- GEOG 554 *Spatial Programming with Python and ArcGIS (new development)* (Spring 2016, Spring 2017, Spring 2018, Spring 2019, Spring 2020, Spring 2021, Fall 2023)
- GEOG 556 *WebGIS (new development)* (Fall 2018, Fall 2019, Fall 2020)
- GEOG 763 *Seminar in Geographic Information Science (new theme: Geospatial Big Data, cloud computing and Cyberinfrastructure--Innovations and Applications)* (Fall 2016, Fall 2017, Fall 2018, Spring 2020; Spring 2022)

Directed Individual Study Courses

GEOG 705 Spatiotemporal Visitation and Sentiment Analysis Research Methods (Fall 2023);

GEOG 805 A Parallel Algorithm Based on Feature Density for Multiple Geographical Features Label Place (Fall 2022); GEOG 705 Quantitative Methods in Geography (Fall 2021); GEOG 706 Advanced Remote Sensing with Deep Learning Techniques (Spring 2021); GEOG 499 Senior Thesis (Spring 2021); GEOG 805 Advanced Directed Individual Studies in Geography (Spring 2021); GEOG 498 Undergraduate Research (Fall, 2020); GEOG 705, Quantitative Methods in Geographic Research (Fall 2019); GEOG 705 Human Mobility Data Model Development (Spring 2019); GEOG 705 Task parallelization in the cluster environment(Fall, 2018); GEOG 705 Human Dynamics in Disasters (Fall, 2018); GEOG 705 Natural Disasters and Social Media (Spring 2018) ; GEOG 705 Build customized deep learning training dataset for remote sensing image classification (Spring 2018) ; GEOG 705 Parallel Computing for Big Climate Data Analytics (Spring 2018) ; GEOG 705 A Web-based Decision Support Platform for Community Engagement in Water Resources Planning (Spring 2017) ; GEOG 705 Spatiotemporal Analysis of Human Mobility Patterns with Transportation Data and Social Media (Summer 2017); GEOG 805 Human Mobility in the Era of Big Data (Summer 2017); GEOG 399 When, Where, and Who: Mining Billions of Tweets to Understand Celebration Patterns of US Holidays (Fall, 2017)

Advising/Mentoring

As Postdoc/Junior Faculty Mentor

1. Dr. Fengrui Jing, Postdoctoral Research Fellow, Geoinformation and Big Data Research Lab, Department of Geography, University of South Carolina (2022- 2023; Now as a Tenure-track Assistant Professor at Jinan University, Guang Zhou, China)
2. Dr. Diego Leal Castro, Assistant Professor of Sociology, University of South Carolina, via the R25 Fellow program at Big Data Health Science Center (2021 - 2022)

As Committee Chair

Current:

1. Huan Ning, Ph.D. student of Geography, Penn State (2021 – present)
2. Naser Lessani, Ph.D. student of Geography, Penn State (2022 - present)
3. Temitope Ezekiel Akinboyewa, Ph.D. student of Geography, Penn State (2023 - present)
4. Ali Khosravi Kazazi, Ph.D. student of Geography, Penn State (2025 – present)
5. Bibian Robert, M.S. student of Spatial Data Science, Penn State (2024 - present)

Graduated:

6. Shaowei Ying, M.S. student of Spatial Data Science, Penn State (2023-2024)
7. Yuqin Jiang, Ph.D. student of Geography, USC (2017-2022)
8. Xiao Huang, Ph.D. student of Geography, USC (2017-2020; co-advisor)
9. Alex Fulham, M.S. student of Geography, USC (2022-2023)
10. Huan Ning, M.S. student of Geography, USC (2017-2019)

11. Mary Windsor, M.S. student of Geography, USC (2015-2017)
12. Finn Hagerty, Undergraduate Student Senior Thesis (Graduate with Distinction), Geography, USC (2020-2021)

As Committee Member

Current:

13. Camryn Garrett, Ph.D. student of Public Health, USC (2023 - present)

Graduated:

14. Chamberline Ozigbu, Ph.D. student of Public Health, USC (2019 - 2025)
15. Sarah Jackson, Ph.D. student of Geography, USC (2020 – 2023)
16. Xinyi Liu, Ph.D. student of Geography, University of Wisconsin-Madison, (2018 – 2023)
17. Qian Huang, Ph.D. student of Geography, USC (2018 – 2022)
18. Grayson Morgan, Ph.D. student of Geography, (2019-2022)
19. Christopher Krause, Ph.D. student of Geography, USC (2019-2021)
20. Sahar Derakhshan, Ph.D. student of Geography, USC (2016-2020)
21. Nicholas Sokol, Ph.D. student of Geography, USC (2017-2020)
22. Yago Martin, Ph.D. student of Geography, USC (2016-2019)
23. Kyser Daniels-Baessler, M.S. student of Geography, USC (2023 - 2024)
24. Margot Habets, M.S. student of Geography, USC (2020 – 2022)
25. Andrew White, M.S. student of Geography, USC (2020 – 2022)
26. Nicole Steeves, M.S. student of Geography, USC (2019 – 2022)
27. Leah Blackwood, M.S. student of Geography, USC (2020 – 2022)
28. Logan Lee, M.S. student of Geography, USC (2019 – 2021)
29. Jacob Ramthun, M.S. student of Geography, USC (2018 – 2020)
30. Tracy Whelen, M.S. student of Geography, USC (2019 – 2020)
31. Grayson Morgan, M.S. student of Geography, USC (2019 – 2020)
32. Alan Rickenbaker, M.S. student of Geography, USC (2019 – 2020)
33. Raelene Campbell, M.S. student of Geography, USC (2017-2018)
34. Erika Pham, M.S. student of Geography, USC (2017-2018)
35. Yuqin Jiang, M.S. student of Geography, USC (2016-2017)
36. Aysegul Yeniaras, M.S. student of Geography, USC (2015-2017)
37. Ike Vayansky, M.S. student of Computing Sciences, Coastal Carolina University (2017-2018)
38. Reagan Murphy, Honors Thesis, Undergraduate of USC Honors College (2018 – 2019)
39. Ethan Magnuson, Honors Thesis, Undergraduate of USC Honors College (2019 – 2021)

Former Visiting Scholars

40. Anna Fiedukowicz, Warsaw University of Technology, 2019

41. Dong Xu, East China Normal University, 2019-2020

Others

- Academic Advisor (**invited**) for the KNIME Training Workshop on Sentiment Analysis in Social Media Data, co-organized by Center for Geographic Analysis at Harvard University, NSF Spatiotemporal Innovation Center, Future Data Lab, and KNIME. November 2022
- Mentor for the NIH-funded T35 Research Traineeship Program in Big Data Science (2021-2023, <https://bigdata.sc.edu/t35-mentors/>). Mentee: Ali Zain (PhD student)
- Mentor for T35 Big Data Health Science Scholar Program for Infectious Diseases. Mentee: Eric Inman (2023)
- Mentor for the CHQ Junior Scholar, SC SmartState Center for Healthcare Quality (2023-2024), Mentees: Camryn Garrett (PhD student) and Fanghui Shi (PhD Student)
- Teaching Grant for Online Course Design, GEOG 105 Digital Earth, USC Center for Teaching Excellence (2020)
- Teaching Innovation Grant for Integrative Learning, GEOG 554 Spatial Programming, USC Connect and Center for Teaching Excellence, (2016)
- Fall 2014: Teaching Assistant, GGS 650 Introduction to GIS Programming and Algorithms (partly taught the course)
- Summer 2014: advised undergraduate student Mathew Zhan for his summer internship.
- Fall 2013: Teaching Assistant, GGS 650 Introduction to GIS Programming and Algorithms (partly taught the course)
- Jan. 2013: Instructor, Cloud Computing Hands-on Workshop, 2013 ESIP Winter Meeting.
- Summer 2009: advised a high school student Kevin Huang on summer internship.
- Spring 2008: Teaching Assistant, GEOG 563 Advanced Geographic Information System

ACADEMIC SERVICES AND OUTREACH

Penn State Services

Departmental service

- 2024-2025, Resident Graduate Selection Committee (Member)
- 2024-2025, Undergraduate Program (Chair)
- 2024-2025, Strategic Planning Committee (Member)
- 2024 (Jan to July), Geography Resident Degree Program Committee (Member)
- 2024 (Jan to July), Geography Faculty Fellowships and Awards Committee (Member)

College and University service

- 2024, Judge, Penn State Undergraduate Exhibition

- 2025, Mentor, Penn State Climate REU program

USC Services

Departmental service

- 2017 - 2023, Undergraduate Advising
- 2022 - 2023, Chair's Advisory Committee
- 2020 - 2022, Faculty Senator
- 2021 - 2022, Undergraduate Director
- 2021-2022, Awards and Scholarships Committee
- 2021 - 2022, Ombudsperson
- 2022, Chair Search Committee
- 2020, Geography Mapping in Justice Competition, Judge
- 2020, Graduate Admissions Committee (Chair)
- 2018, 2019, Graduate Admissions Committee (Member)
- 2018, Ad Hoc Awards Committee (Lovingood Award)
- 2017 - 2018, Search Committee (Human Rights hire)
- 2017 - 2018, Delegate of University Consortium for Geographic Information Science
- 2017-2019, Undergraduate Recruitment Committee
- 2016-2017, Library Representative
- 2017, Search Committee (Instructor hire)
- 2015 - 2020, Member, Computer Policy Standing Committee of Faculty Senate
- 2016, 2017, 2019 Moderator, AAG session student practice

College and University service

- 2022, NSF EPSCoR Internal Competition Review Panel
- 2022 – 2023: Co-lead of Social Media Core, USC Big Data Health Science Center
- 2022, ASPIRE Program Review Committee
- 2021, Data Science and Data Analytics Working Group, College of Arts and Sciences
- 2022 – 2023: Steering Committee, USC Big Data Health Science Center
- 2021, ASPIRE Program Review Committee
- 2018 and 2019, NSF EPSCoR Internal Competition Review Panel
- 2018, ASPIRE Program Review Committee
- 2017-2018, Faculty Senate Information Technology Committee
- 2016, Served as a Mentor at the New Faculty Orientation

Professional Activities

- Editorial Services
 - 2023 – present, Associate Editor, *International Journal of Digital Earth* (Taylor and

- Francis)
- 2023 – present, Associate Editor, *International Journal of Applied Earth Observation and Geoinformation* (Elsevier)
 - 2024 – present, Associate Editor, *Geo-spatial Information Science* (Taylor and Francis)
 - 2024 – present, Editorial Advisory Board, *Cartography and Geographic Information Science* (Taylor and Francis)
 - 2017 – present, Editorial Board, *ISPRS International Journal of Geo-Information (MDPI)*
 - 2019 – 2023, Editorial Board, *Geo-spatial Information Science* (Taylor and Francis)
 - 2018 – 2023, Editorial Board, *PLOS ONE*
 - 2020 – 2023, Editorial Board, *Big Earth Data* (Taylor and Francis)
 - 2022 – 2023, Editorial Board, *International Journal of Digital Earth* (Taylor and Francis)
 - 2020 – 2021, Editorial Board, Infectious Diseases – Surveillance, Prevention and Treatment (specialty section of *Frontiers in Medicine* and *Frontiers in Public Health*)
 - Cyberinfrastructure Specialty Group (CISG) of American Association of Geographers (AAG)
 - Past Chair, 2020 - 2021
 - Chair (elected), 2019 - 2020
 - Vice Chair (elected), 2018 - 2019
 - Secretary/Treasurer (elected), 2016-2018
 - Award Committee, 2016-2020
 - Board Director (student, elected), 2013-2014
 - Webmaster, 2009-2010
 - International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)
 - Board of Director (elected) Member, 2017-2019
 - Election Committee (appointed), 2018
 - Urban computing and spatial planning committee, 2020-2022
 - Education Committee, 2018-2021
 - China Base Committee, 2017-2021
 - Federation of Earth Science Information Partners (ESIP)
 - Co-Chair, Cloud Computing Group (appointed), 2018-2019
 - Student (Young Researcher) Fellowship, 2014
 - 2012-2015: Webmaster, ICWG IV/II: Computing Optimization for Spatial Databases and Location-based Services, ISPRS
 - 2010-2011, English Abstract Editor, *Journal of Geomatics and Spatial Information Technology* (in Chinese)
 - 2005-2006, Leading Co-Founder and Chair of the SpaceSoft Club (geospatial software

development) in Wuhan University

Served on Professional Committees

1. Programming Committee, Symposium on Spatial AI & Data Science for Sustainability, 2025 AAG Annual Meeting, March 24-28, 2025
2. Programming Committee, I-GUIDE Forum 2025 on Geospatial AI and Innovation for Sustainability Solutions, Chicago, Illinois, USA, June 17 - 19, 2025
3. 2024 Rising Star Selection Committee, ACM (Association for Computing Machinery) SIGSPATIAL China
4. Programming Committee, I-GUIDE Forum 2024 on Convergence Science and Geospatial AI for Environmental Sustainability, Columbia University, Jackson, WY, October 14-16, 2024
5. Organizing Committee, AAG 2024 Symposium on Geospatial Data Science for Sustainability, Honolulu, HI. April 16-20, 2024
6. International Program Committee, 10th International Conference on Geographical Information Systems Theory, Applications and Management (GISTAM 2024), Angers, France, May 2-4, 2024
7. Programming Committee, Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions, AAG Annual Meeting, Denver, Colo., Mar 23 - 27, 2023
8. Programming Committee, I-GUIDE Forum 2023, Columbia University, New York City, October 4-6, 2023
9. Programming Committee, National Big Data Health Science Conference 2023, Columbia, SC. February 10-11, 2023.
10. Programming Committee Member, 5th ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (ARIC 2022), Seattle, Washington, USA, November 1, 2022
11. Programming Committee Member, Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS, AAG 2022, Feb. 25- Mar. 1, 2022, New York City.
12. Programming Committee Member, 4th ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (ARIC 2021), Virtual, November 2, 2021
13. Programming Committee Member, 3rd ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (ARIC 2020), Seattle, Washington, November 3, 2020
14. Programming Committee Member, Special Session: The 2nd AI with Geographic Information Systems for Social Good, 19th IEEE International Conference on Machine Learning and Applications, Miami, Florida, December 14-17, 2020
15. Programming Committee Member, Symposium on Frontiers in CyberGIS and Geospatial Data Science, AAG Annual Meeting, Denver, Colo., April 6-10, 2020
16. Organizing Committee Member, The 6th Symposium on Human Dynamics Research, AAG Annual Meeting, Denver, Colo., April 6-10, 2020

17. Programming Committee Member, Symposium on Artificial Intelligence and Deep Learning in Geography, AAG Annual Meeting, Denver, Colo., April 6-10, 2020
18. Programming Committee Member, 2nd ACM SIGSPATIAL Workshop on Advances in Resilient and Intelligent Cities (ARIC), Nov. 5, 2019, Chicago, Illinois, US
19. Programming Committee Member, International Geoinformatics Week, Guangzhou, China, Nov. 22-25, 2019 (Annual Meetings of Geoinformatics in Sustainable Ecosystem and Society and Geospatial Artificial Intelligence for Urban Computing)
20. Evaluation Committee Member of 2019 Travel Award for Ph.D. students, ISPRS International Journal of Geo-Information
21. Program Committee Member, NCCTA'2019: National Conference on Computer Technologies and their Applications, Saida University, Algeria, December 4-5, 2019
22. Program Committee Member, AAG 2019 Symposium on Frontiers in Geospatial Data Science, April 3-7, 2019 - AAG Annual Meeting, WASHINGTON DC 2019
23. Organizing Committee Member, 2nd International Conference on Earth Science & Geo Science, August 12-13, 2019 at Prague, Czech Republic.
24. Organizing Committee Member, International Conference on Computer Science & Cloud Computing (ICCCSCC-2019), July 22-23, 2019, Italy
25. Programming Committee Member, Symposium on Artificial Intelligence and Deep Learning in Geography, April 10-14, 2018, New Orleans
26. Programming Committee Member, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, April 10-14, 2018, New Orleans
27. Programming Committee Member, Symposium on CyberGIS and Spatial Data Science, AAG Annual Meeting, April 10-14, 2018, New Orleans
28. Programming Committee Member, Second Edition International Conference on Big Data and Advanced Wireless technologies, 2018, Oxford, United Kingdom.
29. Programming Committee Member, 2nd International Symposium on Spatiotemporal Computing, NSF STC/ISPRS, August 7-9, 2017 at Harvard University
30. Programming Committee Member, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, April 5-9, 2017, Boston
31. Programming Committee Member, International Workshop on Cloud Computing and Big Data, NSF Spatiotemporal Innovation Center, GGL, ISPRS, July 25 -27, 2016, Fairfax, Virginia
32. Organizing Committee Member, Symposium on Spatiotemporal Thinking, Computing and Applications, 2016 AAG annual meeting
33. Organizing Committee Member, 1st International Symposium on Spatiotemporal Computing, NSF Spatiotemporal Innovation Center (STC)/ISPRS, July 13-15, 2015, Fairfax, VA

Conference Sessions Organized/Chaired

1. Harnessing the power of generative AI in GIScience. The 14th ISDE International Lectures, January 21, 2025, Webinar, International Society for Digital Earth (invited moderator)
2. Panel: Generative AI in GIScience: opportunities and challenges towards autonomous GIS, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Gao S., Ning H., Akinboyewa; co-Chair)
3. Uncertainties in Big Data Analytics in Disaster Research, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Kar B., Chow E.; co-Chair)
4. GIScience and Hazards (I), AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Kar B., Chow E.)
5. GIScience and Hazards (II), AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Kar B., Chow E.; co-Chair)
6. Urban Sensing and Understanding via Geospatial Big Data and AI (I) and (II), AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Akinboyewa T., Lessani N., Yu M.)
7. Integrative Approaches to Understanding Human Mobility and Health Outcomes, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Akinboyewa T., Ning H., Lessani N. Yu M.)
8. Harnessing the Power of Generative AI in GIScience through Autonomous GIS Agents, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Ning H., Gao S.; co-Chair)
9. Big Data Computing for Geospatial Applications I, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Ning H; Chair)
10. Big Data Computing for Geospatial Applications II, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Ning H)
11. Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Lessani N., Huan N; Chair)
12. Geospatial Big Data for Analyzing and Understanding Human Mobility Patterns, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Lessani N., Huan N., Akinboyewa T., Yu M.; Chair)
13. Harnessing Geospatial Big Data for Infectious Diseases, AAG Annual Meeting, March 24-28, 2025, Detroit, Michigan. (co-organized with Lessani N., Stewart K.; Chair)
14. Generative AI and GIScience, The 14th ISDE International Lectures, January 21, 2025. Online (Organizer)
15. Geospatial Methods, The 31st International Conference on Geoinformatics, August 14 – 16, 2024. Toronto, Canada (Session Chair)
16. Urban Sensing and Understanding via Geospatial Big Data and AI, AAG Annual Meeting, April 16 – 20, Honolulu, Hawaii. (co-organized with Akinboyewa T., Lessani N., Yu M.)
17. Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, April 16 – 20, Honolulu, Hawaii. (co-organized with Lessani N., Huang Q., Ning H., Kar B.)

18. Geospatial Big Data for Analyzing and Understanding Human Mobility Patterns, AAG Annual Meeting, April 16 – 20, Honolulu, Hawaii. (co-organized with Ning H., Akinboyewa T., Lessani N., Yu M.)
19. Integrative Approaches to Understanding Human Mobility and Health Outcomes, AAG Annual Meeting, April 16 – 20, Honolulu, Hawaii. (co-organized with Akinboyewa T., Lessani N., Yu M.)
20. Big Data Computing for Geospatial Applications (1), (2), (3), (4), AAG Annual Meeting, April 16 – 20, Honolulu, Hawaii. (co-organized with Ning H., Huang Q., Shook E., Tang W.; Chair)
21. Harnessing Big Social Data for Public Health Research, 4th National Big Data Health Science Conference, Feb. 10-11, 2023. Columbia, SC. (co-organized with Qiao S.)
22. Human Mobility Analytics in the Big Data Era, The 3rd ISDE International Lectures, March 21, 2023. Online (Organizer)
23. Big Data Computing for Geospatial Applications (I and II), AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Ning H., Huang Q., Shook E., Tang W.)
24. Human Mobility Analytics in Big Data Era, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Lessani N., Ning H.)
25. Harnessing Geospatial Big Data for Infectious Diseases, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Jing F., Lai S., Huang B., Stewart K.)
26. Harnessing Geospatial Information for Mental Health and Emotion Issues, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Jing F., Ning H., Qiao S)
27. Multimodal Learning with Geospatial Big Data, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Wu M., Huang Q., Huang X., Michels A., Park J., Gao S.)
28. Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Lessani, Ning H., Huang Q., Emrich C.)
29. Urban Sensing and Understanding via Big Data and GeoAI, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Ning H., Jing F.)
30. Uncertainties in Big Data Analytics in Disaster Research, AAG Annual Meeting, March 23-27, 2023, Denver (co-organized with Kar B., Chow E., Huang Q.)
31. Urban Computational Paradigms with Shareable Data, Models, Tools, and Frameworks, 2022 AAG, Feb. 25 – Mar. 1, 2022, New York City (co-organized with Huang X., Ye X.)
32. Symposium on Human Dynamics Research: Human mobility in Big Data Era I & II, 2022 AAG, Feb. 25 – Mar. 1, 2022, New York City (co-organized with Jiang Y, Huang X.)
33. Uncertainties in Big Data Analytics in Disaster Research, 2022 AAG, Feb. 25 – Mar. 1, 2022, New York City (co-organized with Edwin Chow, Huang Q.)
34. Harnessing Geospatial Big Data for Infectious Diseases, 2022 AAG, Feb. 25 – Mar. 1, 2022, New York City (co-organized with Lai S., Huang B., Stewart K.)
35. Social Media and Big Data for Disasters, AAG annual meeting, Online, April 7-11, 2021 (co-organized with Kar B., Huang Q., Chow E.).
36. Mobility Data: Applications and Challenges, AAG annual meeting, Online, April 7-11, 2021

(co-organized with Hu T.).

37. CIGS Robert Raskin Student Competition Panel Session, AAG annual meeting, Denver, Colo., April 6-10, 2020 (Chair, co-organized with Hohl A., held virtually)
38. Symposium on Human Dynamics Research: Human Mobility in Big Data Era, AAG annual meeting, Denver, Colo., April 6-10, 2020 (co-organized with Jiang Y., cancelled due to the pandemic)
39. Big Data Computing for Geospatial Applications in the Symposium on Frontiers in CyberGIS and Geospatial Data Science, AAG annual meeting, Denver, Colo., April 6-10, 2020 (Chair, co-organized with Tang W., Shook E., cancelled due to the pandemic)
40. Human Mobility in Big Data Era, AAG Annual Meeting, Denver, Colo., April 6-10, 2020 (co-organized with Jiang Y., Ye X., cancelled due to the pandemic)
41. Social Media Big Data and Uncertainties in Disaster Research, AAG Annual Meeting, Denver, Colo., April 6-10, 2020 (co-organized with Kar B., Chow E., Huang Q., cancelled due to the pandemic)
42. Big Data and GeoAI for Natural Hazards, in Symposium on Artificial Intelligence and Deep Learning in Geography, AAG Annual Meeting, Denver, Colo., April 6-10, 2020 (co-organized with Huang Q., cancelled due to the pandemic)
43. Big Data Computing for Geospatial Applications, April 3-7, 2019 - AAG Annual Meeting, Washington DC 2019 (co-organized with Tang W., Shook E., Huang Q.)
44. Big Data and GeoAI for Natural Hazards, AAG 2019 Symposium on Frontiers in Geospatial Data Science, April 3-7, 2019 - AAG Annual Meeting, Washington DC 2019 (co-organized with Huang Q.)
45. Panel session: Social Sensing and Big Data Computing for Disaster Management, 2019 AAG annual meeting (co-organized with Huang Q.)
46. Smart Cities and Urban Computing, 2019 AAG Annual Meeting (co-organized with Wang S. and Ye X.)
47. Session Chair, Symposium on New Horizons in Human Dynamics Research: Smart Cities and Urban Computing I, 2018 AAG annual meeting
48. Session Chair, Big Data Streams and Mining for Natural Hazards, 2018 AAG annual meeting
49. Big Data Computing for Geospatial Applications, 2018 AAG annual meeting (co-organized with Huang Q., Tang W., Shook E.)
50. Panel session: Social Sensing and Big Data Computing for Disaster Management, 2018 AAG annual meeting (co-organized with Huang Q.)
51. Symposium on New Horizons in Human Dynamics Research: Smart Cities and Urban Computing I, 2018 AAG annual meeting (co-organized with Ye X., Wang S., Mesev V.)
52. Big Data Streams and Mining for Natural Hazards, 2018 AAG annual meeting (co-organized with Huang Q., Ye X.)
53. Symposium on New Horizons in Human Dynamics Research: Smart Cities and Urban Computing III, 2018 AAG annual meeting (co-organized with Wang S. and Ye X.)

54. High Performance Computing for Big Spatiotemporal Analytics, 2017 AAG annual meeting (co-organized with Hu F.)
55. CISG Robert Raskin Student Competition, 2017 AAG annual meeting (co-organized with Tang W.)
56. Session Chair, International Workshop on Cloud Computing and Big Data, NSF Spatiotemporal Innovation Center, GGL, ISPRS, July 25 -27, 2016, Fairfax, Virginia
57. High Performance Computing for Spatiotemporal Analytics, 2016 AAG annual meeting (co-organized with Hu F.)
58. New Data Sources, Technologies, and Tools for Disaster Management, 2016 AAG annual meeting (co-organized with Huang Q.)
59. Spatiotemporal Computing for Spatial Big Data Science, 2015 AAG annual meeting (co-organized with Hu F.)
60. Spatiotemporal Thinking, Computing, and Applications: Climate and Weather Change, 2015 AAG annual meeting (co-organized with Sun M.)
61. WebGIS: Technologies and applications, 2015 AAG annual meeting (co-organized with Xia J.)
62. Integrating spatiotemporal and advanced computing technologies for geosciences, 2014 AAG annual meeting (Organizer)
63. Technologies and applications of Web-based GIS, 2014 AAG annual meeting (co-organized with Xia J.)
64. Session Chair, Integrating spatiotemporal and advanced computing technologies for geosciences, 2014 AAG annual meeting
65. Cloud computing for geosciences, 2014 AAG annual meeting (organizer)
66. Technologies and applications of the modern Web-based GIS session, 2013 AAG annual meeting (co-organized with Xia J.)
67. CyberGIS Symposium: CyberGIS for supporting climate studies session, 2013 AAG annual meeting (Organizer)
68. Session Chair, Technologies and applications of the modern Web-based GIS session, 2013 AAG annual meeting

Manuscript Reviews for Peer-reviewed Journals (year [times])

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| 1. International Journal of Digital Earth | 2025[1], 2023 [1], 2022 [2], 2021 [3], 2018 [3], 2017 [2], 2016 [1] |
| 2. Cartography and Geographic Information Science | 2025 [2], 2024 [1], 2022 [1], 2021 [2], 2020 [1], 2019 [1], 2018 [4], 2017 [2] |
| 3. International Journal of Geographical Information Science | 2024 [4], 2023 [2], 2019 [1], 2018 [4], 2017 [1], 2016 [1] |

4. Computers, Environment and Urban Systems 2021 [1], 2020 [3], 2019 [2], 2018 [2], 2016 [2]
5. Computers & Geosciences 2017 [1]
6. PLOS ONE 2019 [2], 2018 [2]
7. ISPRS International Journal of Geo-Information 2023 [1], 2019 [1], 2018 [3], 2017 [5], 2016 [2]
8. Annals of the American Association of Geographers 2019 [2]
9. Geoinformatica 2017 [2]
10. Weather, Climate and Society 2022 [1], 2021 [1], 2018 [1]
11. Environmental Modelling & Software 2019 [1], 2018 [1]
12. Annals of GIS 2022 [1], 2021[2], 2018 [1], 2017 [1]
13. Information Sciences 2017 [1]
14. Journal of Geography 2018[1], 2017 [1]
15. Information 2018 [1]
16. Journal of Geographic information System 2019 [1], 2018 [1], 2017 [3], 2016 [3]
17. Journal of Spatial Science 2017 [2]
18. Transportation Research Part C 2021 [1], 2018 [1]
19. Transactions in GIS 2023 [1], 2022 [1], 2021 [1], 2020 [1], 2018 [2]
20. Journal of Risk and Financial Management 2017 [1]
21. Journal of Geovisualization and Spatial Analysis 2018 [1]
22. Informatics 2016 [1]
23. Urban Science 2019 [1]
24. Frontiers in Big Data 2019 [2]
25. Cities 2019 [1]
26. International Journal of Disaster Risk Reduction 2022 [2], 2020 [3], 2019 [1]
27. Geo-spatial Information Science 2023 [1], 2022 [2], 2021 [3], 2020 [2], 2019 [1]
28. Remote Sensing 2020 [1]
29. Natural Hazards 2020 [1]
30. Future Generation Computer Systems 2020 [2]
31. Journal of Ambient Intelligence and Humanized Computing 2020 [1]
32. Annals of Epidemiology 2020 [2]

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| 33. Growth and Change: A Journal of Urban and Regio | 2020 [1] |
| 34. Natural Communications | 2020 [2] |
| 35. Big Data and Society | 2021 [2] |
| 36. Big Earth Data | 2021 [1] |
| 37. Journal of Geographical Systems | 2021 [1] |
| 38. Journal of Environmental Policy & Planning | 2022 [1] |
| 39. Regional Science, Policy and Practice | 2022 [1] |
| 40. Earth's Future | 2024 [2] |
| 41. IEEE Transactions on Artificial Intelligence | 2025 [1] |

Manuscript Reviews for Books and Conferences, and Book Proposals:

- Geographic Information Science & Technology Body of Knowledge
- High Performance Computing for Geospatial Applications
- Cloud Computing in Ocean and Atmospheric Sciences (Book)
- International Symposium on Spatiotemporal Computing; International Workshop on Web Mapping, Geoprocessing and Services
- ACM SIGSPATIAL Workshop on Advances in Resilient and Intelligent Cities (ARIC)
- Book proposal reviews for Elsevier, Taylor & Francis Group, and Bentham Science Publisher

Grant Proposal Reviews

- Serve on the review panels of National Science Foundation (NSF-HEGS program) (2022; 2025)
- Served as an ad-hoc proposal reviewer for
 - US National Science Foundation
 - US Department of Commerce
 - US National Institute of Standards and Technology (NIST)
 - Swiss National Science Foundation
 - North Carolina Water Resources Research Institute

Professional Memberships

- 2012- present: International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)
- 2007- present: Association of the American Geographers (AAG)

- 2024- present: Middle States Division of the Association of American Geographers (MSDAAG)
- 2008- present: American Geophysical Union (AGU)
- 2009- present: Cyberinfrastructure Specialty Group, AAG
- 2016- 2023: SouthEastern Division of Association of the American Geographers (SEDAAG)

Media interviews/mentions

- 2024, Penn State News, Improved wildfire smoke model identifies areas for public health intervention, <https://www.psu.edu/news/research/story/improved-wildfire-smoke-model-identifies-areas-public-health-intervention>
- 2024, Penn State News, NIH grant for new tool development to help assess obesity-related behaviors, <https://www.psu.edu/news/earth-and-mineral-sciences/story/nih-grant-new-tool-development-help-assess-obesity-related>
- 2023, Catholic University of America, Digital Scholar Bytes: Celebrating World GIS Day: Unveiling the Power of Spatial Intelligence, <https://www.lib.cua.edu/wordpress/newsevents/21913/>
- 2023, About Geospatial Technology, The Future Shaped by AI and Robotics in Geospatial and BIM Industries, <https://www.linkedin.com/pulse/future-shaped-ai-robotics-geospatial-bim-industries-bhoda-uygic>
- 2023, Baobab Tech, GIS Meets Large Language Models: A New Era of Spatial Analysis, <https://baobabtech.ai/posts/gis-meets-large-language-models-a-new-era-of-spatial-analysis>
- 2023, UConn Today, Nationwide Study Redefines How Food Environment Impacts Cardiometabolic Diseases, <https://today.uconn.edu/2023/11/nationwide-study-redefines-how-food-environment-impacts-cardiometabolic-diseases>
- 2022, The Conversation, Fear of COVID-19 and fear of change are dangerously intertwined for 2022, <https://theconversation.com/fear-of-covid-19-and-fear-of-change-are-dangerously-intertwined-for-2022-174849>
- 2020, The New York Times, The Young Cut Loose in Myrtle Beach. The Virus Followed Them Home. <https://www.nytimes.com/2020/07/01/us/coronavirus-myrtle-beach.html>
- 2020, WLTX, UofSC researchers using Twitter to track COVID19, <https://www.wltx.com/article/news/local/street-squad/twitter-data-tracks-covid19>
- 2020, COVID-19 research: Geographer tracks movement with Twitter data, Study holds promise for disease tracking in future outbreaks, https://sc.edu/uofsc/posts/2020/04/covid_impact_twitter_data_air_traffic.php#.YZErFwDMInA
- 2019, Breakthrough Magazine of USC and PreventionWeb.net, Disaster research: Learning from past devastation helps prepare for future events, https://www.sc.edu/uofsc/posts/2019/07/disaster_flood_research.php

- 2017, Charleston City Paper: Avoiding fake news during extreme storms while leveraging Twitter to report the weather, <https://goo.gl/YF6A3Z>
- 2017, ABC Columbia (WOLO): Using Twitter to Track Eclipse Visitors to the Midlands, <http://www.abccolumbia.com/2017/08/18/icymi-using-twitter-to-track-eclipse-visitors-to-the-midlands>
- 2017, South Carolina Radio Network: University of South Carolina researcher uses social media in research on eclipse. <https://www.southcarolinaradionetwork.com/2017/08/22/university-south-carolina-researcher-uses-social-media-research-eclipse>
- 2016, WSPA Columbia: USC Researchers Who Studied SC Flood Share Findings, <http://wspa.com/2016/11/18/usc-researchers-who-studied-sc-flood-share-findings>