ZHE ZHANG

Assistant Professor
Department of Geography, Texas A&M University
Phone: 9798456523
Email: zhezhang@tamu.edu

1. DEGREES

2016	Doctor of Science (with distinction) in Geoinformatics, minored in applied mathematics, Department of Built Environment, Aalto University, Espoo, Finland
2009	Master of Science (Technology) in Geomatics, Department of Surveying, Helsinki University of Technology, Espoo, Finland
2005	Bachelor of Environmental Engineering, Tampere University of Applied Sciences, Tampere, Finland

2. TEXAS A&M RANK AND PROMOTION HISTORY

Effective Date of Rank	End Date of Rank	Faculty Title	Department	College
09/2019	Ongoing	Assistant Professor	Geography	College of Arts and Sciences, Texas A&M University
03/2023	Ongoing	Affiliate Faculty	Electrical and Computer Engineering	College of Engineering, Texas A&M University
09/2019	Ongoing	Faculty Fellow	Texas A&M Hazard Reduction & Recovery Center	School of Architecture, Texas A&M University
09/2019	Ongoing	Faculty Fellow	Institute of Data Science	Texas A&M University

09/2018	09/2019	Visiting Assistant Professor	Geography	College of Geosciences, Texas A&M University

3. CAREER WORK EXPERIENCE

03/2023 – 4/2024	Chair, American Association of Geographers (AAG), Cyberinfrastructure Specialty Group
10/2019 - Ongoing	Group leader, University Consortium for Geographic Information Science (UCGIS), CyberGIS and Decision Support Systems Research Initiative
01/2017 – 08/2018	Postdoctoral Research Associate, Department of Geography & Geographic Information Science, University of Illinois Urbana-Champaign
08/2016 – 12/2016	Application specialist, Department of Spatial Data Infrastructure Services, National Land Survey of Finland

4. AWARDS AND HONORS

Year Conferred	Conferring Organization	Award Classification	Detailed Description of Award
2024	Texas A&M Faculty Affairs	Pathway Award	Outstanding in research and outreach
2023	National Science Foundation (NSF)	Early CAREER Program Award	Outstanding in research and education
2023	AAG	Robert Raskin Student Paper Competition	Ph.D students Zhenlei Song and Nanzhou Hu won the Third Place and Honorable Mention awards in the competition
2022	International Conference for High Performance Computing, Networking, Storage, and Analysis (SC22), Dallas	Travel Award	Travel award from NSF to attend the SC22 workshop. Our workshop also received “Workforce Diversity & Inclusion Leadership Award” from the SC22 conference.

2022	Texas A&M Data Science Institute	Student Research Award	Ph.D. students Diya Li and Zhenlei Song won the first prize and best presentation awards in Texas A&M Student Data Science Competition
2022	UCGIS & NSF	Research Award	Outstanding education services in CyberGIS and spatial data science
2022	AAG	Robert Raskin Student Competition	Ph.D student Diya Li won second place in the student paper competition
2021	Texas Youth Action Network (TYAN) funded by Texas Department of State Health Services	Partnership Award	Outstanding partnership and education services at TYAN
2021	Texas Youth Action Network (TYAN)	Education Award	Outstanding teaching and outreach in youth communities
2019	NSF-Conceptualization: Geospatial Software Institute (GSI) Workshop	Travel Award	Outstanding research activities in spatial data science
2016	Aalto University, Finland	Distinction Dissertation Award	Completed the doctoral dissertation with distinction

5. PUBLICATIONS

Notes:
**Graduate Student Paper, # Corresponding Author*

- **Peer Reviewed Book Chapters**

Completed/Published

2. Wang, S., Bishop, M. P., **Zhang**, Z., Young, B. W., & Xu, Z. (2021). CyberGIS and Geospatial Data Science for Advancing Geomorphology. In: Technology-driven geomorphology: Geospatial data science. Elsevier Publishing Inc. Oxford.

1. **Zhang**#, Z., (2020). Thematic accuracy. *The Geographic Information Science & Technology Body of Knowledge* (2nd Quarter 2020 Edition), John P. Wilson(ed). 10.22224/gistbok/2020.2.3

- **Peer Reviewed Journal Articles**

Completed/Published

29. Ye, X., Newman, G., Zhai, W., Retchless, D., Das, S., Ham, Y., Zou, L., Huang, X., Zhang, Z. (2025). Towards coastal infrastructure resiliency: an AI-enabled decision-support framework for multi-scale comprehension and stakeholder empowerment. *Transactions of the American Philosophical Society*. (Accepted)
28. Hu, N., Zhang, Z., Duffield, N., Li, X., Dadashova, B., Wu, D., Yu, S., Ye, X., Han, D. and Zhang, Z., (2024). Geographical and temporal weighted regression: examining spatial variations of COVID-19 mortality pattern using mobility and multi-source data. *Computational Urban Science*, 4(1), 6.
27. Hillin, J., Alizadeh, B., Li*, D., Thompson, C. M., Meyer, M. A., **Zhang**, Z., & Behzadan, A. H. (2024). Designing user-centered decision support systems for climate disasters: what information do communities and rescue responders need during floods? *Journal of Emergency Management (Weston, Mass.)*, 22(7), 71-85.
26. Song*, Z., **Zhang**#, Z., Tao, J., Chapman, P., Chang, P., Gao, H., Liu, H., Brannstrom, C., (2024). Mapping the Unheard: Analyzing Trade-Offs between Fisheries and Offshore Wind Farms Using Multi-Criteria Decision Analysis. *Annals of the American Association of Geographer*, https://doi.org/10.1080/24694452.2023.2285371.
25. Li*, D., Thompson, C., Behzadan, A., Meyer, M., Gao, H., **Zhang**#, Z. (2023) A Reinforcement Learning-based Routing Algorithm for Large Street Networks. *International Journal of Geographical Information Science,*38 (2), 183-215.

24. Li*, D., & **Zhang**#, Z. (2023). MetaQA: Enhancing human-centered data search using Generative Pre-trained Transformer (GPT) language model and artificial intelligence. *Plos one*, 18(11), e0293034.

23. Du, S., Yao, J., Shen, G. C., Lin, B., Udo, T., Hastings, J., Wang, F., Wang, F., **Zhang**, Z, Ye, X., Zhang, K. (2023). Social Drivers of Mental Health: A US Study Using Machine Learning. *American Journal of Preventive Medicine*, 65(5), 827-834. https://doi.org/10.1016/j.amepre.2023.05.022

22. Yang, Y., Chen, X., Gao, S., Li, Z., **Zhang**, Z., Zhao, B. (2023). Embracing geospatial analytical technologies in tourism studies. *Information Technology & Tourism*, 1-14. https://doi.org/10.1007/s40558-023-00249-w

21. Li, X., Fu, D., Nielsen-Gammon, J., Gangrade, S., Kao, S., Chang, P., Hernández, M., Voisin, N., **Zhang**, Z., Gao, H., (2022). Impacts of climate change on future hurricane induced rainfall and flooding in a coastal watershed: A case study on Hurricane Harvey. *Journal of Hydrology*, 128774. https://doi.org/10.1016/j.jhydrol.2022.128774

20. Li, X., Yu, S., Huang, X., Dadashova, B., Cui, W., & **Zhang**, Z. (2022). Do underserved and socially vulnerable communities observe more crashes? A spatial examination of social vulnerability and crash risks in Texas. *Accident Analysis & Prevention*, 173, 106721. https://doi.org/10.1016/j.aap.2022.106721

19. Cui, W., Hu*, N., Zhang, S., Li, D., Martinez, L., Goldberg, D., Güneralp, B. & **Zhang**#, Z. (2022). Analyzing spatial variations of heart disease and type-2 diabetes: A multi-scale geographically weighted regression approach. *Computational Urban Science*, *2*(1), 1-14. https://doi.org/10.1007/s43762-022-00059-6

18. Li, X., Farrukh, M., Lee, C., Khreis, H., Sarda, S., Sohrabi, S., **Zhang**, Z. and Dadashova, B., (2022). COVID-19 impacts on mobility, environment, and health of active transportation users. *Cities*, *131*, 103886. https://doi.org/10.1016/j.cities.2022.103886

17. Huang, X., Xu, Y., Liu, R., Wang, S., Wang, S., Zhang, M., Kang, Y., **Zhang**, Z., Gao, S., Zhao, B., Li, Z., (2022). Exploring the spatial disparity of home-dwelling time patterns in the U.S. during the COVID-19 pandemic via Bayesian inference. *Transactions in GIS,* 26(4),1939-1961. https://doi.org/10.1111/tgis.12918

16. Alizadeh, B., Li*, D., Hillin, J., Meyer, M. A., Thompson, C. M., **Zhang**, Z., & Behzadan, A. H. (2022). Human-centered flood mapping and intelligent routing through augmenting flood gauge data with crowdsourced street photos. *Advanced Engineering Informatics*, *54*, 101730. https://doi.org/10.1016/j.aei.2022.101730

15. **Zhang**[#], Z, Yin, D., Virrantaus, K., Ye, X., and Wang, S., (2021) Modeling human activity dynamics: an object-class oriented space–time composite model based on social media and urban infrastructure data. *Computational Urban Science,* 1, 1-13.https://doi.org/10.1007/s43762-021-00006-x

14. [#]**Zhang**, Z., Zou, L., Li, W., Usery, L., Albrecht, J., Armstrong, M., (2021). Cyberinfrastructure and intelligent spatial decision support system. *Transactions in GIS*, 25(4), 1651-1653. https://doi.org/10.1111/tgis.12835

13. Jiang, H., Hu, H., Li, B., **Zhang**, Z., Wang, S., Lin, T., (2021). Understanding the non-stationary relationships between corn yield and meteorology via a spatiotemporally varying coefficient model. *Agricultural and Forest Meteorology,* 301,108340.https://doi.org/10.1016/j.agrformet.2021.108340

12. Li, Y., Gao, H., George, A., **Zhang**, Z., (2021). Constructing reservoir area-volume-elevation curve. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 14, 2249-2257. https://ieeexplore.ieee.org/document/9320619

11. Li, X., Dadashova, B., Yu, S., and **Zhang**, Z., (2020). Rethinking highway safety analysis by leveraging crowdsourced waze data. *Sustainability,* 12(23), 10127. https://doi.org/10.3390/su122310127

10. *Li, D., Chaudhary, H., and **Zhang**#, Z., (2020). Modeling Spatiotemporal Pattern of Depressive Symptoms Caused by COVID-19 Using Social Media Data Mining. *International Journal of Environmental Research and Public Health*, 17(14), 4988. https://doi.org/10.3390/ijerph17144988

9. Xu, B., Li, Y., Han, F., Zheng, Y., Ding, W., Zhang, C., Wallington, K. and **Zhang**, Z., (2020). The transborder flux of phosphorus in the Lancang-Mekong River Basin: Magnitude, patterns and impacts from the cascade hydropower dams in China. *Journal of Hydrology*, *590*,125201. https://doi.org/10.1016/j.jhydrol.2020.125201

8. **Zhang**[#], Z., Laakso, T., Wang, Z., Pulkkinen, S., Ahopelto, S., Virrantaus, K., Li, Y., Cai, X., Zhang, C., Vahala, R. and Sheng, Z., (2020). Comparative Study of AI-based methods—application of analyzing inflow and infiltration in sanitary sewer subcatchments. *Sustainability,* 12(15), 6254. https://doi.org/10.3390/su12156254

7.Zhao J., **Zhang**, Z., Sullivan, C., (2019). Identifying anomalous nuclear radioactive sources using Poisson Kriging and mobile sensor networks, *PLoS ONE*, 14(5), e021613 (Zhang and Zhao Contributed equally to this work).

https://doi.org/10.1371/journal.pone.0216131
6.Armstrong, M., Wang., S., and **Zhang**., Z., (2018). The Internet of Things and fast data streams: prospects for geospatial data science in emerging information ecosystems. *Cartography and Geographic Information Science,* 46(1), 39-56. https://doi.org/10.1080/15230406.2018.1503973
5.**Zhang,** Z., Hu, H., Yin, D., Kashem, S., Li, R., Cai, H., Perkins, D., and Wang, S., (2018). A CyberGIS-enabled multi-criteria spatial decision support system: a case study on flood emergency management. *International Journal of Digital Earth,* 12(11), 1364-1381. https://doi.org/10.1080/17538947.2018.1543363
4. Seppänen, H., Luokkala, P., **Zhang,** Z., Torkki, P., and Virrantaus, K. (2018). Critical infrastructure vulnerability- a method for identifying the infrastructure service failure interdependencies. *International Journal of Critical Infrastructure Protection*, 22, 25-38. https://doi.org/10.1016/j.ijcip.2018.05.002
3. **Zhang**[#]**,** Z., Demsă, U., Wang, S., and Virrantaus, K., (2018). A spatial fuzzy influence diagram for modelling spatial objects' dependencies: a case study on tree-related electric outages. *International Journal of Geographical Information Science*, 32(2), 349-366. https://doi.org/10.1080/13658816.2017.1385789
2. **Zhang**[#]**,** Z., and Virrantaus, K., (2016). Use of fuzzy decision-making approach in analysis of the vulnerability of street network for disaster management. *Nordic Journal of Surveying and Real Estate Research,* 11(2), 7-19. https://journal.fi/njs/article/view/65131
1.**Zhang**[#], Z., Demsă, U., Rantala, J., and Virrantaus, K., (2014). A fuzzy multiple- attribute decision making modelling for vulnerability analysis on the basis of population information for disaster management. *International Journal of Geographical Information Science*, 28(9), 1922-1939. https://doi.org/10.1080/13658816.2014.908472

- **Peer Reviewed Conference Proceedings**

Completed/Published

7. Zhang, Z., Li*, D., Song*, Z., Duffield, N., **Zhang**, Z. (2023, November). Location-Aware Social Network Recommendatiaon via Temporal Graph Networks. *LocalRec '23: Proceedings of the 7th ACM SIGSPATIAL*

Workshop on Location-based Recommendations, Geosocial Networks and Geoadvertising, 58-61, https://doi.org/10.1145/3615896.3628342

6. **Zhang**, Z., Wang, Z., Li, A., Ye, X., Usery, E. L., & Li*****, D. (2021, November). An AI-based Spatial Knowledge Graph for Enhancing Spatial Data and Knowledge Search and Discovery. In *Proceedings of the 1st ACM SIGSPATIAL International Workshop on Searching and Mining Large Collections of Geospatial Data*, 13-17.https://doi.org/10.1145/3486640.3491393

5. *****Li, D., & **Zhang**#, Z. (2021, November). Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality. In *Proceedings of the 4th ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities*, 27-31. https://doi.org/10.1145/3486626.3493430

4. Zhang*, Z., Li, D., **Zhang**, Z., & Duffield, N. (2021, November). A time-series clustering algorithm for analyzing the changes of mobility pattern caused by COVID-19. In *Proceedings of the 1st ACM SIGSPATIAL International Workshop on Animal Movement Ecology and Human Mobility*, 13-17. https://doi.org/10.1145/3486637.3489489

3. Alizadeh, B., Li*, D., **Zhang**, Z., Behzadan, A., (2021). Feasibility study of urban flood mapping using traffic signs for route optimization. *EG-ICE 2021 Workshop on Intelligent Computing in Engineering*, 572-581. https://arxiv.org/abs/2109.11712

2. **Zhang**#, Z., and Virrantaus, K., (2010). Analysis of vulnerability of road networks on the basis of graph topology and related attribute information. Philips-Wren G., Jain L.C., Nakamatsu K., Howlett R., eds**.,** *Advances in Intelligent Decision Technologies*, 353-363, New York: Springer Berlin Heidelberg.

1. Zhang#, Z., Rangsima, S., and Virrantaus, K., (2010). A spatio-temporal population model for alarming, situational picture, and warning system. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 38 (2), 69-74.

- **Other Publications**

Completed/Published

6. **Zhang**[#], Z., Breen, K., Goddard, T., Han, D., Li, X., Meyer, M., Ye, X., Yu, S., (2020). Social Vulnerability, Mobility, and COVID-19 Spatial Mortality Patterns. *NSF Converge, COVID-19 Working Groups for Public Health and Social Sciences Research.* Available from web: https://converge.colorado.edu/working-groups/social-vulnerability-mobility-and-covid-19-spatial-mortality-patterns/

5. Campbell, N., Ali, S., Binder, S., Ganapati, E., ……, **Zhang**, Z., (2020). Social Safety Net Organizations Serving Vulnerable Populations. *NSF Converge, COVID-19 Working Groups for Public Health and Social Sciences Research.* Available from web: https://converge.colorado.edu/working-groups/social-safety-net-organizations-serving-vulnerable-populations/

4.Vickery, J., Aggarwal, R., Alam, E., Marks, A., ……**Zhang**, Z., (2020). Homelessness, Housing Precarity, and COVID-19. *NSF Converge, COVID-19 Working Groups for Public Health and Social Sciences Research.* Available from web: https://converge.colorado.edu/working-groups/homelessness-housing-precarity-and-covid-19/

3. Benton, A., Irwin, J., Maier, S., Remes, J., **Zhang**, Z., (2020). Impact of Narratives and Framing in Response to COVID-19. *NSF Converge, COVID-19 Working Groups for Public Health and Social Sciences Research.* Available from web: https://converge.colorado.edu/working-groups/impacts-of-narratives-and-framing-in-response-to-covid-19/

2. Brisotto, C., Oliveira, F., Murphy, C., Wang, L., Zhang, Z., **Zhang**, Z., and Zong, J., (2020). Urban Design Strategies for Future Food Systems. Available from web: https://converge.colorado.edu/working-groups/urban-design-strategies-for-future-food-systems/

1. **Zhang**[#], Z., (2019). Geospatial Software Institute: A Knowledge Hub for Driving Sustainable Geospatial Software Ecosystem. *The 3rd NSF Workshop on Conceptualizing a National Geospatial Software Institute*. https://gsi.cigi.illinois.edu/workshop3/position-papers/

6. PROFESSIONAL AFFILIATION AND MEMBERSHIP

2023 - Present	Lifetime member, Cartography and Geographic Information Society
2023 - Present	Gulf of Mexico Coastal Ocean Observing System, Council Member
2022, November - Present	United States Research Software Engineer Association, Member
2017 - Present	AAG

2021, January – December 2022	Frontiers in Environmental Science- special issue on Big Earth Data Intelligence for Environmental Modeling, Guest Editor
2020, January – December 2022	Frontiers in Big Data – special issue on Big Data for Urban Systems, Guest Editor
2020, January - Present	Computational Urban Science, Associate Editor
2019, January – December 2021	Transactions in GIS - Special Issue on Cyberinfrastructure and Intelligent Spatial Decision, Guest Editor
2020, September - Present	Spatial Decision Support Consortium, Member
2020, September - Present	Open Geospatial Consortium (OGC), Member
2020, September - Present	American Heart Association (AHA), Member
2020, September - Present	American Association for the Advancement of Science (AAAS), Member
2020, September - Present	Association for Computing Machinery (ACM), Member
2019, September - Present	Institute of Electrical and Electronics Engineers (IEEE), Member
2019, September - Present	IEEE Computational Intelligence Society, Member
2019, September - Present	Knowledge-based & Intelligent Engineering System (KES International), Member
2019, September - Present	International Society for Photogrammetry and Remote Sensing (ISPRS), Member
2019, September - Present	American Association of University Woman (AAUW), Member
2019, September - Present	American Geophysical Union (AGU), Member
2019, September - Present	UCGIS, CyberGIS and Decision Support Systems Research Initiative, Group Leader

7. PROFESSIONAL PRESENTATIONS/INVITED SPEAKER/ MEDIA

- **Invited Talk and Panels**

2024	Date: 2024-May, Presentation Title: Spatial Decision Support Systems in the Era of Big Data and Disaster Science, Location: Online Role: Speaker, Regionality of Activity: IGUIDE program, University of Illinois Urbana-Champaign
2024	Date: 2024-Feburary, Presentation Title: Spatial Decision Support Systems in the Era of Big Data and Disaster Science, Location: Online Role: Invited Guest Lecture, Regionality of Activity: Morgan State University
2024	Date: 2024-March, Presentation Title: Spatial Decision Support Systems in the Era of Big Data and Disaster Science, Location: Online Role: Invited Guest Lecture, Regionality of Activity: State University of New York, University at Albany
2023	Date: 2023-December, Presentation Title: Gulf of Mexico Coastal Ocean Observing System Collaboration Opportunities, Location: Orange Beach, Alabama, Role: Invited Panelist, Regionality of Activity: Gulf of Mexico Coastal Ocean Observing System Council Meeting, National
2023	Date: 2023-August, Presentation Title: Hybrid Spatial Decision Support Systems: Hybrid Spatial Decision Support Systems in the Era of Big Data and Convergent Disaster Science, Location: Rolla, Missouri, Role: Invited Speaker, Regionality of Activity: U.S. Geological Survey (USGS) Annual Research Meeting, National
2023	Date: 2023-March, Presentation Title: AAG 2023 Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Convergence of CyberGIS and Geospatial AI, Location: Denver, Role: Panelist, Regionality of Activity: AAG Annual Meeting, National

2023	Date: 2023-March, Presentation Title: Spatial decision support systems in convergence science, Location: Online, Role: Invited Speaker, Regionality of Activity: State University of New York, University at Albany
2023	Date: 2023-Feburary, Presentation Title: Spatial decision support systems in convergence disaster science, Location: Texas A&M University, College of Engineering Role: Invited Speaker, Regionality of Activity: Regional
2022	Date: 2022-June, Presentation Title: Combining high-resolution climate simulation with ocean, biogeochemistry, fisheries and decision-making models to improve sustainable fisheries., Location: Online Role: Invited Speaker, Regionality of Activity: NSF, National Convergence Accelerator Expo
2022	Date: 2022-Feburary, Presentation Title: Human-centered spatial decision support systems, AAG 2022 Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS, Location: Online Role: Panelist, Regionality of Activity: AAG annual meeting, National
2022	Date: 2022-June, Presentation Title: AI in Spatial Decision Support, Location: Syracuse, New York Role: Panelist, Regionality of Activity: UCGIS Symposium, National
2022	Date: 2022-March, Presentation Title: A time-series clustering algorithm for analyzing the changes of mobility pattern caused by COVID-19, Location: Texas A&M University, Role: Panelist, and Invited Presenter, Regionality of Activity: Texas A&M Institute of Data Science Research Conference, Regional
2022	Date: 2022-May, Presentation Title: A Geospatial cyberinfrastructure for convergence science, Location: Texas A&M University, Role: Invited Speaker, Regionality of Activity: Texas A&M High-Performance Research Computing Center Workshop, Regional
2022	Date: 2022-March, Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality, Location: Texas A&M, College Station, Role: Invited Speaker, Regionality of Activity: Texas A&M Institute of Data Science Digital Twin workshop, Regional

2022	Date: 2022-March, Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality, Location: Texas A&M, College Station, Role: Invited Speaker, Regionality of Activity: Texas A&M Institute of Data Science Workshop on Design & Analytics for Urban Artificial Intelligence, Regional
2021	Date: 2021-October, Presentation Title: Spatiotemporal knowledge graph for knowledge discovery, Role: Invited Speaker, Regionality of Activity: NASA, National
2021	Date: 2021-January, Presentation Title: Artificial Intelligence in the Era of Big Data and Convergence Science, Location: Online, Role: Keynote, Regionality of Activity: National Land Survey of Finland, International
2021	Date: 2021-May, Presentation Title: Social sensing and GIS in Disaster Management, Location: Texas A&M University, Role: Invited Speaker, Regionality of Activity: Texas A&M High-Performance Research Computing Summer Camp, Regional
2021	Date: 2021-July, Presentation Title: A Human-Centered Spatial Decision Support System for Street Level Flood Mapping and Disaster Management, Location: Online, Role: Invited Speaker, Regionality of Activity: Texas A&M GeoX Workshop, Regional
2020	Date: 2020-June, Presentation Title: Building Resilience City in Disaster Management, Location: Houston, TX, Role: Invited Talk, Regionality of Activity: Center for Texas Beaches and Shores, Regional
2020	Date: 2020-May, Presentation Title: Writing small grants, Location: Online, Role: Panelist, Regionality of Activity: Texas A&M University, Department of Landscape Architecture & Urban Planning, Regional
2020	Date: 2020-June, Presentation Title: CyberGIS Enabled Decision Support Systems for Disaster Management, Location: Online Role: Invited Talk, Regionality of Activity: UCGIS, National
2019	Date: 2019-September, Presentation Title: Geospatial Software Institute: A Knowledge Hub for Driving Sustainable Geospatial Software Ecosystem, Location: Washington DC,

	Role: Panelist and Session Chair, Regionality of Activity: The 3rd NSF Workshop on Conceptualizing a National Geospatial Software Institute, National

- **Conference Presentations**

2024	Presentation Title: Geospatial Cyberinfrastructure Workshop: Building High-Performance, Ethical, and Secured Geospatial Software. Regionality of Activity: 2024 AAG Annual Meeting (April, Hawaii)
2023	Presentation Title: On-road traffic detection and tracking based on high-performance deep learning cyberinfrastructure. Regionality of Activity: 2023 AAG Annual Meeting (March, Denver)
2023	Presentation Title: A Geospatial Cyberinfrastructure for NetCDF Files Full-Stack I/O and Visualization of Climate and Fishery Datasets Using High-Performance Computing Clusters. Regionality of Activity: 2023 AAG Annual Meeting (March, Denver)
2023	Presentation Title: A Node-Segment-Substitution (NSS) Multi-Criteria Model of Texas Highway Congestion. Regionality of Activity: 2023 AAG Annual Meeting (March, Denver)
2023	Presentation Title: A Human Environment Interaction Modeling Tool for Sustainable Coastal and Ocean Management. Regionality of Activity: 2023 AAG Annual Meeting (March, Denver)
2023	Presentation Title: Exploring sentiment changes about active transportation during COVID-19 using social media data mining. Regionality of Activity: International Symposium on Location-based Big Data and GeoAI (Virtual Meeting)
2023	Presentation Title: Disaster science and GIS education enabled by ArcGIS story maps: spatial learning tools for advancing youth geography education. Regionality of Activity: The 48th Annual Natural Hazards Research and Applications Workshop (July, Boulder)

2023	Presentation Title: Spatial learning tools for advancing youth geography education. Regionality of Activity: ESRI User Conference (July, San Diego)
2023	Presentation Title: Broadening Adoption of Cyberinfrastructure and Research Workforce Development for Disaster. Regionality of Activity: NSF CyberTraining PI Meeting. Regionality of Activity: The 3rd International Conference on Urban Informatics (September, Hongkong)
2023	Presentation Title: Broadening Adoption of Cyberinfrastructure and Research Workforce Development for Disaster. Regionality of Activity: NSF CyberTraining PI Meeting (October, Houston)
2022	Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality. Regionality of Activity: 2022 AAG Annual Meeting (Virtual Meeting)
2022	Presentation Title: Human-centered spatial decision support systems, AAG 2022 Symposium on Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS. Regionality of Activity: 2022 AAG Annual Meeting (Virtual Meeting)
2022	Presentation Title: Combining high-resolution climate simulation with ocean, biogeochemistry, fisheries and decision-making models to improve sustainable fisheries., Regionality of Activity: NSF Convergence Accelerator Expo (Virtual Meeting)
2022	Presentation Title: A time-series clustering algorithm for analyzing the changes of mobility pattern caused by COVID-19, Regionality of Activity: Texas A&M Institute of Data Science Research Conference
2022	Presentation Title: A Geospatial cyberinfrastructure for convergence science, Location: Texas A&M University, Regionality of Activity: Texas A&M High-Performance Research Computing Center Workshop, Regional

2022	Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality, Regionality of Activity: Texas A&M Institute of Data Science Digital Twin workshop, Regional
2022	Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality, Regionality of Activity: Texas A&M Institute of Data Science Workshop on Design & Analytics for Urban Artificial Intelligence, Regional
2021	Presentation Title: A Decision-support data fusion web app and a case study of public transportation network equity evaluation in Harris County, Houston. Regionality of Activity: 2021 AAG Annul Meeting (Virtual Meeting)
2021	Presentation Title: An intelligent spatial decision support system based on citizen science for driving resilience in coastal communities. Regionality of Activity: Texas A&M Innovation X Workshop
2021	Presentation Title: An Al-based Spatial Knowledge Graph for Enhancing Spatial Data and Knowledge Search and Discovery. Regionality of Activity: 1st ACM SIGSPATIAL International Workshop on Searching and Mining Large Collections of Geospatial Data (Virtual Meeting)
2021	Presentation Title: Urban computing cyberinfrastructure: visualizing human sentiment using social media and augmented reality. Regionality of Activity: 4th ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (Virtual Meeting)
2021	Presentation Title: A time-series clustering algorithm for analyzing the changes of mobility pattern caused by COVID-19. Regionality of Activity: 1st ACM SIGSPATIAL International Workshop on Animal Movement Ecology and Human Mobility (Virtual Meeting)
2021	Presentation Title: A. Feasibility study of urban flood mapping using traffic signs for route optimization. Regionality of Activity: EG-ICE 2021 workshop on intelligent computing in Engineering (July, Berlin)

2021	Presentation Title: A Collaborative Spatial Decision Support System for Flood Emergency Management. Regionality of Activity: Texas A&M PRIMR conference
2020	Presentation Title: Multiscale Geographically Weighted Regression: the Analysis of Spatially Varying Patterns of Electric Vehicle Adoption. Regionality of Activity: AAG Annual Meeting 2020 (Virtual Meeting)
2019	Presentation Title: A CyberGIS-enabled multi-criteria spatial decision support system: a case study on flood emergency management. Regionality of Activity: AAG Annual Meeting 2019 (April, Washington D.C., USA)
2019	Presentation Title: A data-driven approach to identify rainfall derived inflow and infiltration in sanitary sewer sub-catchments. Regionality of Activity: AGU annual meeting (December, San Francisco, U.S.A.)
2019	Presentation Title: Frontiers in Geospatial Data Science Regionality of Activity: Texas A&M University, Texas A&M GIS Day
2018	Presentation Title: High resolution remote sensing based ecological indicators for evaluating urban ecological quality. Regionality of Activity: AAG Annual Meeting 2018 (April 10-14, New Orleans, USA)
2018	Presentation Title: A spatiotemporal population model for emergency management based on social media and urban infrastructure data. Regionality of Activity: AAG Annual Meeting 2018 (April 10-14, New Orleans, USA)

8. GRANTS

External Grants	
02/2024-01/2029	National Science Foundation (NSF) (#2339174) CAREER: A Cyberinfrastructure Enabled Hybrid Spatial Decision Support System for Improving Coastal Resilience to Flood Risks, Zhang (Sole PI), $548,302

10/2023- 09/2026	NSF (#2321069) Collaborative Research: CyberTraining: Implementation: Small: Broadening Adoption of Cyberinfrastructure and Research Workforce Development for Disaster Management, Zhang (PI), $379,995
09/2023 – 08/2025	NSF (#2322377) CC* Data Storage: FASTER Data Infrastructure to Accelerate Computing, Zhang (Co-PI), $499,527
08/2023 – 08/2024	NSF (#2330330) Collaborative Research: Conference: Geospatial Cyberinfrastructure Workshop: Building High-Performance, Ethical, and Secured Geospatial Software, Zhang (PI), $25,020
2022	NSF Travel Award STEM-Trek SC22 Co-Located workshop at International Conference for High Performance Computing, Networking, Storage, and Analysis (SC22), Dallas Zhang (PI), $800 travel award
08/2022 - 09/2024	National Aeronautics and Space Administration (NASA) Earth Science Applications: Equity and Environmental Justice A spatial decision support system for identifying heat vulnerability based on a comprehensive energy budget model and multi-criteria decision analysis in Oklahoma City, OK; Zhang (Institutional PI), $149,163
2022	NSF funded I-GUIDE Community Champion Challenges and Implementation of CyberGIS Education in GIS&T Body of Knowledge: from Educators' Perspectives to Popular Practices. Part of NSF HDR Institute: Geospatial Understanding through an Integrative Discovery Environment project (#2118329), Zhang (Community Champion PI), $3000
09/2021 – 09/2022	US Department of Transportation Impact of COVID-19 Induced Active Transportation Demand on the Built Environment and Public Health; Zhang (Co-PI), $90,000

09/2021 – 09/2024	National Geographic Society Texas Youth Geography Network: Spatial Learning Tools for Advancing Youth Geography Education; Zhang (Sole PI); $42,978
10/2022 – 10/2024	NSF (#2137684) NSF Convergence Accelerator Track E: Combining high-resolution climate simulations with ocean biogeochemistry, fisheries and decision-making models to improve sustainable fisheries; Zhang (PI), $749,548
2021-2026	NSF (#21123356) Category II: ACES - Accelerating Computing for Emerging Sciences; Zhang (Co-I), $12,249,999, no funding to Zhang since this is a hardware development project. Zhang will get computing resources from Texas A&M high-performance computing center.
2021-	Texas Department of State Health Services K-12 Geography and GIS education program- Texas Youth Action Network; Zhang (Sole PI), $10,000
07/2020-08/2024	NSF (#2019129) MRI: Acquisition of FASTER – Fostering Accelerated Sciences Transformation Education and Research; Zhang (Co-PI), $3,090,000
2020	NSF- Natural Hazard Center Converge Working Groups, Social Vulnerability, Mobility, and COVID-19 Spatial Mortality Patterns; Zhang (PI), $1000
2020	NSF - Natural Hazard Center Converge Working Groups, Social Safety Net Organizations Serving Vulnerable Populations; Zhang (Co-PI), $1000
2020	NSF- Natural Hazard Center Converge Working Groups, Homelessness, Housing Precarity, and COVID-19; Zhang (Co-I), $1000

2020	NSF - Natural Hazard Center Converge Working Groups, Urban Design Strategies for Future Food Systems; Zhang (Co-PI); $1000
2020	NSF - Natural Hazard Center Converge Working Groups Impact of Narratives and Framing in Response to COVID-19; Zhang (Co-PI), $1000
2019	NSF (#1743184) Conceptualization: Geospatial Software Institute; Zhang (PI for travel grant); $1000 travel grant
09/2019- 01/2024	National Oceanic and Atmospheric Administration Sea Grant A Hybrid Decision Support System for Driving Resiliency in Texas Coastal Communities; Zhang (Co-PI); $299,995
Internal Grants	
2023-2025	Texas A&M Targeted Proposal Team (TPT) grant Center for Healthy, equitable, and resilient transportation + environment in Texas, Zhang (Co-I); $250,000
2022-2024	Texas A&M Institute of Data Science (TAMIDS), Texas A&M Thematic Data Science Labs Program, Design & Analytics Lab for Urban Artificial Intelligence (DAL) Zhang (Co-PI); $300,000
2022-2023	Texas A&M Dean's funding program Analyzing Associations between Food Insecurity and Health Outcomes using Multi-source Micro Data; Zhang (PI), $10,000
2021-2022	Texas A&M President's Excellence Fund: T3 Grant

	Human-Centered Decision Support System for Improving Urban Resilience in Disaster Management; Zhang (PI), $32,000
2021-2022	Geoscience Dean's Funding program A Community-Scale Climate Change Adaptation System based on Spatial Decision Analysis and High-Resolution Climate Simulations and Projections, Zhang (PI), $6000
2020-2021	Texas A&M School of Innovation- Innovation [X] An Intelligent Spatial Decision Support System based on Citizen Science for Driving Resilience in Coastal Communities; Zhang (PI); $20,000
2020-2021	Texas A&M TAMIDS Data Resource Development Program A Spatial Decision Support System for Cardiovascular Disease Risk Assessment in Response to the COVID-19 Crisis; Zhang (Sole PI); $32,000

9. INVITED REVIE OF JOURNAL ARTICLES

International Journal of Geographical Information Science
Annals of the American Association of Geographers
Computers, Environment and Urban Systems
Transactions in GIS
Urban Water Journal
Water
International Journal of Science and Technology Education Research
Journal of Location Based Services
Computing
Data
Journal Entropy
Personal and Ubiquitous Computing
ISPRS International Journal of Geo-Information
International Journal of English and Literature
International Journal of Information Technology & Decision Making

International Journal of Environmental Research and Public Health
Journal of Spatial Information Science
Applied Sciences
Energy Research & Social Science
Annals of GIS
Urban Informatics