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1. BACKGROUND

1.1 ACADEMIC POSITIONS

- 12/2024 - present: Affiliate Faculty, Nelson Institute for Environmental Studies, University of Wisconsin-Madison (UW-Madison)
- 11/2023 - present: Professor, Department of Geography, UW-Madison
- 4/2019 - 11/2023: Associate Professor, Department of Geography, UW-Madison
- 8/2013 - 4/2019: Assistant Professor, Department of Geography, UW-Madison
- 9/2012 - 6/2013: Instructor/Research Associate, George Mason University
- 8/2011 - 4/2012: Cloud Software Engineer, Enstratus (acquired by Dell, 2013)
- 10/2011 - 7/2012: Research Scientist, USGS Eastern Geographic Science Center
- 8/2007 - 8/2011: Graduate Research and Teaching Assistant, George Mason University
- 6/2004 - 7/2007: Graduate Research Assistant, Institute of Remote Sensing and Geographic Information Sciences, Peking University, China

1.2 EDUCATION

- Ph.D., 2011. Earth Systems and Geoinformation Sciences, George Mason University, Fairfax, VA
Dissertation: *Adaptive Nested Models and Cloud Computing for Scientific Simulation - A Case Study Using Dust Storm Forecasting*
- M.S., 2007. Cartography and Geographical Information Science, Peking University, China
- B.S., 2004. Survey and Mapping Engineering, Central South University, China

1.3 RESEARCH INTERESTS

- Giscience, Geospatial Data Science, Remote Sensing
- Geospatial Big Data, Geospatial AI (GeoAI), Machine (Deep) Learning, Computer Vision, Image Processing, Data Visualization
- Natural Hazards, Disaster Mapping, Damage Assessment, Disaster Resilience
- Urban Informatics
- Human Mobility, Social Segregation, Environmental Justice
- Digital Agriculture
- Earth System and Environmental Modeling

1.4 SELECTED HONORS AND AWARDS

- 2026: Fellow, American Association of Geographers
- 2025: Next Generation of Hazards & Disasters Researchers Mentor, National Science Foundation
- 2024: H.I. Romnes Faculty Fellow
- 2022: Elsevier Top 2% Scientists List (by Stanford University)

- 2020: Vilas Associate Award
- 2020: Microsoft AI for Earth Award
- 2016: Madison Teaching and Learning Excellence Faculty Fellow
- 2016: Most Popular Paper Award, International Journal of Digital Earth
- 2015: 1st International Symposium on Spatiotemporal Computing Best Paper Award
- 2014: Next Generation of Hazards & Disasters Researchers Fellow, National Science Foundation
- 2014: CyberGIS Fellow, University of Illinois at Urbana-Champaign IL
- 2012: Outstanding Graduate Student, George Mason University
- 2011: Summer Student Best Paper Travel Award, UCGIS
- 2010: AAG Cyberinfrastructure Specialty Group (CISG) Student Best Paper Award
- 2004: Graduated with Honor
- 2004: Best Undergraduate Thesis

1.5 AWARDS/SCHOLARSHIPS RECEIVED BY STUDENTS (45 times)

- AAG- Remote Sensing Specialty Group: Tang Sui (2025, Student Paper Competition, 3rd place), Bo Peng (2020, Student Paper Competition Finalist, competition canceled due to COVID-19)
- UW-Madison: Meiliu Wu (2024, Capstone Teaching Award)
- British Cartographic Society: Atlas Guo (2024, Highly Commended, Collins Bartholomew Award for Thematic Mapping & Infographics, 2nd place; 2024, Commended, Garsdale Design Award for 3D Mapping, 4th Place)
- Arizona Geographic Information Council: Atlas Guo (2024, Winner of Student Project, 1st place)
- North American Cartographic Information Society (NACIS) Conference: Atlas Guo (2024, Winner in Research Map, 1st place; 2023, Best Cartographic Design Award)
- GIS Colorado: Atlas Guo (2024, GISCO Mapping Contest, 1st place of Student Artistic Section)
- University Consortium for Geographic Information Science (UCGIS) Symposium: Meiliu (2023, Best Paper)
- AAG-CyberInfrastructure Specialty Group (CISG): Bo Peng (2011, Finalist), Meiliu Wu (2023, 1st place, \$300)
- AAG-Geographic Information Science and Systems (GISS) Specialty Group: Meiliu Wu (2023, 2st place, \$450)
- CaGIS Map Design Competition: Atlas Guo (2023, Best Print Map; 2021, Honorable Mention)
- UW-Madison Annual Digital Salon: Atlas Guo (2024, 2nd Place (tie) / Honorable Mention; 2023, 2nd Place / Honorable Mention)
- AAG- Spatial Analysis and Modeling (SAM) Specialty Group: Meiliu Wu (2022, 2st, \$450), Atlas Guo (2021, Travel Award)
- AAG- Hazards, Risks, and Disasters Specialty Group: Bo Peng Mingda Wu (2023, Best Paper), (2021, Best Paper)
- American Society for Photogrammetry and Remote Sensing (ASPRS) William A. Fischer Memorial Scholarship: Bo Peng (2020, \$2000)
- Applied Machine Learning Summer Research Fellowship, Los Alamos National Laboratory: Bo Peng (2020, \$14,600)

- ACM SIGSPATIAL Travel Grant: Songxi Yang (2024, \$1000), Meiliu Wu (2022, \$1000), Bo Peng (2019, \$1000), Zonglin Meng (2019: \$1000)
- AAG Student Travel Award: Meiliu Wu (2022 and 2023, \$300)
- International Conference on Geoinformatics Best Student Competition: Meiliu Wu (2021, 2st, \$500)
- International Graduate Workshop on GeoInformatics Best Participation Award: Meiliu Wu (2021)
- Esri User Conference: Atlas Guo (2024, Most Innovative Map, 1st place; 2024, Best Cartography Award; 2024, Cartography Special Interest Group Excellence Award; 2024, 1st Place of Student Maps; 2023, Most Innovative Map, 1st place; 2023, Cartography Special Interest Group Excellence Award; 2020, Top 2 ranked maps out of 600+ submissions)
- Wisconsin Land Information Association (WLIA): Atlas Guo, 2024 and 2021, Best Student Map; 2024, Best Student Map)
- Geography, UW-Madison: Xinyi Liu (2018, Petchenik Graduate Award), Bo Peng (2021, Olmstead Award for Outstanding Publication; 2019, Graduate Student Research Grant), Xinyi Liu (2021, Whitebeck Graduate Dissertator Award, \$11,000)

2. RESEARCH

2.1 GRANTS

- 1) 2025 - 2027: Enabling the Next Generation of Hazards & Disaster Researchers VIII, National Science Foundation, \$433,641 (Senior Personnel). PI: Dr. Abdul-Akeem Sadiq
- 2) 2025 – 2026: Developing a GeoAI Foundation Model for Global Flood Extent Mapping, PAII Inc., \$50,000/yr with renewable contract. PI: Qunying Huang
- 3) 2024 – 2029: H. I. Romnes Faculty Fellowship. Office of the Vice Chancellor for Research & Graduate Education, UW–Madison, \$60,000. PI: Qunying Huang
- 4) 2023 –2024: Potential Impact of Florida SB264 - Agricultural Land, Critical Infrastructure and Military Installation Zone Mapping and Analysis, Chinese American Legal Defense Alliance (CALDA), \$4,680. PI: Qunying Huang
- 5) 2022 – 2025: DSFAS-AI: Developing an Integrated Deep Learning Modeling Framework for County-Level Crop Yield Prediction in support of USDA NASS Operation, National Institute of Food and Agriculture, \$649,786 (Co-PI). PI: Dr. Zou Zhang
- 6) 2020 – 2022: Fusing Social Media Data and GeoAI for Disaster Event Detection, Vilas Associates Award, UW-Madison, \$89,272. PI: Qunying Huang
- 7) 2020 - 2022: Self-Supervised Deep Learning and Computer Vision for Real-Time Large-Scale High Definition Flood Extent Mapping, Microsoft AI for Earth Award, Microsoft, \$30,000 (Co-PI). PI: Bo Peng.
- 8) 2020 - 2022: Collaborative Research: A GeoAI Data-Fusion Framework for Real-Time Assessment of Flood Damage and Transportation Resilience by Integrating Complex Sensor Datasets, National Science Foundation, \$299,709. PI: Qunying Huang
- 9) 2019 - 2024: Contextualized Daily Prediction of Lapse Risk in Opioid Use Disorder by Digital Phenotyping, National Institute of Health, \$3,416,728 (Co-PI). PI: Dr. John Curtin
- 10) 2019 - 2021: Risk-based Assessment and MANagement (RAMAN) Online Visualization Tools for Health of Bluff, Beach, and Nearshore Environments on Wisconsin's Coast, Wisconsin Sea Grant Institute, National Oceanic & Atmospheric Administration, \$142,000 (Co-PI). PI: Dr. Chin Wu

- 11) 2018 - 2019: A 3D Visualization System for Human Mobility Study Using Online Footprints, Wisconsin Alumni Research Foundation, \$39,270. PI: Qunying Huang
- 12) 2016 - 2019: EPIGRIDS: Electric Power Infrastructure and Grid Representation in Interoperable Data Sets, Department of Energy, \$1,476,000 (Co-PI). PI: Dr. Christopher L. DeMarco
- 13) 2017 - 2018: Resource Demand Estimation for Effective Disaster Response Using Crowdsourcing Data, Wisconsin Alumni Research Foundation, \$46,765. PI: Qunying Huang
- 14) 2015 - 2017: Evaluation of Big Data Containers for Popular Storage, Retrieval, and Computation Primitives in Earth Science Analysis, NASA, \$50,000. PI: Qunying Huang
- 15) 2015 - 2016: Developing an Intelligent System for Disaster Situational Awareness Based on Social Media, Wisconsin Alumni Research Foundation, \$31,979. PI: Qunying Huang
- 16) 2014 - 2016: Enabling the Next Generation of Hazards & Disaster Researchers IV, National Science Foundation, \$382,125 (Fellow). PI: Dr. Deborah Thomas
- 17) 2014 - 2015: Developing a Cloud-enabled Interactive Mapping System for Wisconsin Economic Development Corporation (WEDC), WEDC, \$10,000 (Co-PI). PI: Dr. Howard Veregin
- 18) 2012 -2013: ESIP Testbed: Cloud Cost Model, Federation of Earth Science Information Partners (ESIP), \$5000. PI: Qunying Huang
- 19) 2011 - 2012: Cloud Enable GEOSS Clearinghouse, Microsoft, \$100,000 (Co-PI). PI: Dr. Chaowei Yang
- 20) 2010 - 2011: Geospatial Cloud Processing, ESIP student funding, \$3000. PI: Qunying Huang
- 21) 2009 - 2020: GeoCloud Initiative, Federal Geographic Data Committee (FGDC), \$30,000 (Co-PI). PI: Dr. Chaowei Yang

2.2 PUBLICATIONS

6 books, 73 journal articles, 26 refereed conference proceedings, 47 book chapters and 5 encyclopedia entries

[Google Scholar](#) (Last accessed January 2026): > 6,400 citations, h-index 39, i10-index 81

Underlined names: my students; Dashed underlined names: mentored students; Corresponding authors: marked with "*"

2.2.1 Books

- 1) Xia J., **Huang Q.***, Gui Z., Tu W., 2023. Open GIS. Springer, ISBN 978-3-031-41747-4. (*Monograph textbook*)
- 2) Li Z., **Huang Q.**, Emrich C., 2021. Social Sensing and Big Data Computing for Disaster Management, Routledge/Taylor & Francis, ISBN 978-0-367-61765-3 2. (*Edited special issues*)
- 3) Li Z., Tang W., **Huang Q.**, Shook E., Guan Q., 2020. Big Data Computing for Geospatial Applications, MPDI, ISBN 978-3-03943-244-8. (*Edited special issues*)
- 4) Yang C., Yu M., **Huang Q.**, etc., 2016. Introduction to Programming and GIS Algorithms with Python and ArcGIS, *CRC Press/Taylor & Francis*, 328p. ISBN: 978-1466510081. (*Monograph textbook*)
- 5) Yang C., **Huang Q.**, 2013. Spatial Cloud Computing: A Practical Approach, *CRC Press/Taylor & Francis*, 304p. ISBN: 978-1466593169. (*Monograph textbook*)
- 6) **Huang Q.**, 2012. Adaptive Nested Models and Cloud Computing for Scientific Simulation: A Case Study Using Dust Storm Forecasting, *LAP LAMBERT Academic Publishing*, 120p. ISBN: 978-3659154775.

2.2.2 Journal Editorship

- 1) Liu W., Qiang Y., **Huang Q.**, Yu M., 2023. GIS and Remote Sensing Applications in Natural Hazards, *Remote Sensing*.
- 2) Huang Z., Benenson I., **Huang Q.**, Wang M., 2023. Trajectory Data Computing and Mining, *GIScience & Remote Sensing*.
- 3) Kar B., Ye X., Li Z., **Huang Q.**, 2020. Special Issue on Scaling, Spatio-Temporal Modeling, and Crisis Informatics, *ISPRS International Journal of Geo-Information*.
- 4) Li Z., Tang W., **Huang Q.**, Shook E., Guan Q., 2018. Special Issue on Big Data Computing for Geospatial Applications, *ISPRS International Journal of Geo-Information*.
- 5) Li Z., **Huang Q.**, Emrich C., 2017. Special Issue on Social Sensing and Big Data Computing for Disaster Management, *International Journal of Digital Earth*. Taylor & Francis.
- 6) Ye X., **Huang Q.**, Li W., 2015. Special Issue on Integrating Big Social Data, Computing, and Modeling for a Synthesized Spatial Social Science, *Cartography and Geographic Information Science*. Taylor & Francis.

2.2.3 Books/Papers in Preparation

- 1) Sui T., Zhuang Y., Wang C., **Huang Q.***, 2025. HydroTGNN: Filling Missing Streamflow Data with Graph Neural Network. *Journal of Hydrology*. (Under review)
- 2) Yang S., Liu H., Wang X., Wu M., Zhou Z., Yang W., **Huang Q.***, 2024. A Cyber-agricultural System for Automating Near Real-time Crop Yield Prediction and Dissemination, *Computers and Electronics in Agriculture*. (Under review)
- 3) Zhang S., Wu M., **Huang Q.***, 2025. Citizen-sourced social sensing: A case study of developing a cross-platform mobile application for rapid disaster response. *Environmental Modelling and Software*. (Under review)
- 4) Sui T., Yang S., Wang Y., and **Huang Q.***, 2025. SpecSwin3D: Generating Hyperspectral Imagery from Multispectral Data via Transformer Networks. *IEEE Transactions on Geoscience and Remote Sensing*. (Under review)
- 5) Xu Z., Wang Y., Zhang J., Huang Q., 2025. A Comprehensive Comparison of Multispectral and Hyperspectral Imagery for Plot-Level Crop Yield Prediction of Snap Beans, Kidney Beans, and Potatoes. *Smart Agricultural Technology*. (To be submitted in Nov, 2025)
- 6) Kun C., **Huang Q.***, 2025. Multi-task Learning for Wildfire Burn Severity Mapping. *Journal of Hydrology*. (To be submitted in Dec, 2025)
- 7) Shi Z., Gao S., and **Huang Q.***, 2026. Wildfire progression modeling with reinforce learning. (To be submitted in Jan, 2026)
- 8) Liu H., Fan J., Gao S., and **Huang Q.***, 2026. GOES-to-VIIRS Super-Resolution: toward Near-Realtime Sub-Kilometer Wildfire Monitoring. *Remote Sensing of Environment*. (To be submitted in March, 2026)
- 9) Wu M., **Huang Q.**, Gao, S., Lee Y., 2026. Towards spatially-explicit multi-modal learning for understanding urban environments. *International Journal of Geographical Information Science*. (To be submitted in April, 2026)
- 10) Guo C., **Huang Q.***, 2026. Spatiotemporal and Sentiment Pattern of Evacuation Behaviors during Natural Hazards. *Cartography and Geographic Information Science*. (To be submitted in December, 2026)

- 11) Wu M., **Huang Q.**, Gao, S., Lee Y., 2026. Towards non-pairwise multi-modal learning informed by Laws of Geography for understanding urban environments. *Environmental Science & Technology*. (To be submitted in May, 2026)
- 12) Wu M., **Huang Q.**, Huang X., 2026. Segregated pleasure: Measuring racial-ethnic and income segregation in the entertainment and recreational POIs in US largest cities. *Sustainable cities and society*. (To be submitted in June, 2026)
- 13) Liu X., Wu M., and **Huang Q.**, 2026. Multi-modal Data Fusion for Social Media User Profiling - A Case Study of Occupation Prediction. *PlosOne*. (To be submitted in December, 2026)

2.2.4 Peer-Reviewed Journal Articles

- 1) Yang S., Sui T. and **Huang Q.***, 2025. GeoAwareDiffSR: geospatial-aware remote sensing super resolution with diffusion priors and multi-modal constraints for crop mapping. *GIScience & Remote Sensing*, 62(1), p.2597564. DOI: doi.org/10.1080/15481603.2025.2597564
- 2) Yang S., Ebrahimian H., Zhang Z., and **Huang Q.***, 2025. Deep learning for single-image super-resolution in remote sensing: A review. *International Journal of Remote Sensing*, 1–43. DOI: doi.org/10.1080/15481603.2025.2597564
- 3) Xu Y., Gao S.*, **Huang Q.**, Gocmen A., Zhu Q.*, Zhang F., 2025. Imagery2Flow: Predicting Human Mobility Flows in Cities Using Deep Learning on Satellite Imagery. *Nature Communication*, 16(1), p.10372.
- 4) Wu M., **Huang Q.***, Gao S., 2025. Advancing vision-language models with spatial-context prompt tuning: a case study in GeoAI-empowered image geo-localization. *Journal of Location Based Services*, pp.1-21. DOI: doi.org/10.1080/17489725.2025.2599302
- 5) Wu M., Wong D., **Huang Q.***, 2025. Segregation: what is in a name? A review of segregation measurement and a prospective framework. *Spatial Demography*. DOI: [10.1007/s409080-025-00147-1](https://doi.org/10.1007/s409080-025-00147-1).
- 6) Zhou S., Wu M., Ye X., Silbernagel J., Hart D.A. and Huang, Q.*, 2025. Advancing smart disaster response by leveraging social sensing and mobile technology. *Geo-spatial Information Science*, pp.1-19. DOI: doi.org/10.1080/10095020.2025.2588034
- 7) Kruse J., Gao S., Ji Y., Levin K., **Huang Q.** and Mayer K.R., 2025. Identifying rich clubs in spatiotemporal interaction networks. *Annals of the American Association of Geographers*, 115(4): 899-922. DOI: doi.org/10.1080/24694452.2025.2464806
- 8) Yang S., Peng B., Sui T., Wu M. and **Huang Q.***, 2025. Advancing Self-Supervised Learning for Building Change Detection and Damage Assessment: Unified Denoising Autoencoder and Contrastive Learning Framework. *Remote Sensing*, 17 (15): 2717. DOI: doi.org/10.3390/rs17152717
- 9) Qiu Y., Wu M., **Huang Q.***, Kang Y., 2025. Do You Know Your Neighborhood? Integrating Street View Data and Multi-task Learning for Fine-Grained Multi-Class Neighborhood Wealthiness Prediction. *Cities*, 158: 105703. DOI: <https://doi.org/10.1016/j.cities.2025.105703>
- 10) Wang X., Ma Y., **Huang Q.**, Yang Z., Zhang Z*, 2025. Learning county from pixels: Corn yield prediction with attention-weighted multiple instance learning. *International Journal of Remote Sensing*, 1-31. DOI: doi.org/10.1080/01431161.2025.2459215
- 11) Wu M., **Huang Q.***, Sui T., Peng B., Yu M., 2024. A Remote Sensing Spectral Index Guided Bitemporal Residual Attention Network for Wildfire Burn Severity Mapping. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. DOI: [10.1109/JSTARS.2024.3460531](https://doi.org/10.1109/JSTARS.2024.3460531)

- 12) Sui T., **Huang Q.***, Wu M.D., Wu M.L., Zhang Z., 2024. BiAU-Net: Wildfire burnt area mapping using bi-temporal Sentinel-2 imagery and U-Net with attention mechanism. *International Journal of Applied Earth Observation and Geoinformation*, 132:104034. DOI: 10.1016/j.jag.2024.104034
- 13) 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. DOI: 10.1080/17538947.2024.2391952
- 14) Yang S., **Huang Q.***, Yu M., 2024. Advancements in Remote Sensing for Active Fire Detection: A Review of Datasets and Methods. *Science of Total Environment*, 943: 173273. DOI: 10.1016/j.scitotenv.2024.173273
- 15) Wu M., **Huang Q.***, Gao S., Zhang Z., 2023. Mixed land use measurement and mapping with street view images and spatial context-aware prompts via zero-shot multimodal learning. *International Journal of Applied Earth Observation and Geoinformation*, 125 (2023): 103591. DOI: 10.1016/j.jag.2023.103591
- 16) Wu M., Liu X., Qin Y., **Huang Q.***, 2023. Estimating experienced racial-ethnic segregation based on social media data: A case study in Los Angeles-Long Beach-Anaheim. *Computers, Environment and Urban Systems (CEUS)*, 104 (2023): 102008 - 102021. DOI: 10.1016/j.compenvurbsys.2023.102008.
- 17) Vongkusolkij J., Peng B., Wu M., **Huang Q.***, Andresen C. G., 2023. Near Real-Time Flood Mapping with Weakly Supervised Machine Learning. *Remote Sensing*, 15(13), 2363. DOI: 10.3390/rs15133263.
- 18) Ma Y., Yang Z., **Huang Q.**, Zhang Z*, 2023. Improving the Transferability of Deep Learning Models for Crop Yield Prediction: A Partial Domain Adaptation Approach. *Remote Sensing*, 15(18), 4562; DOI: 10.3390/rs15184562.
- 19) Xu S., **Huang Q.**, Zou Z*, 2023. Spatio-Temporal Transformer Recommender: Next Location Recommendation with Attention Mechanism by Mining the Spatio-Temporal Relationship between Visited Locations. *ISPRS International Journal of Geo-Information*, 12(2):79.
- 20) Liu X., Wu M., Peng B., and **Huang Q.***, 2022. Graph-based representation for identifying individual travel activities with spatiotemporal trajectories and POI data. *Scientific Report*, 12(1): 15769. DOI: 10.1038/s41598-022-19441-9.
- 21) Wu M., and **Huang Q.***, 2022. Human movement patterns of different racial-ethnic and economic groups in US top 50 populated cities: What can social media tell us about isolation?. *Annals of GIS*, 28 (2):161-183. DOI: 10.1080/19475683.2022.2026471.
- 22) Peng B., **Huang Q.***, Vongkusolkij J., Gao S., Wright D., Fang Z. and Qiang Y., 2021. Urban Flood Mapping with Bi-temporal Multispectral Imagery via a Self-supervised Learning Framework. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 14: 2001-2016. DOI: 10.1109/JSTARS.2020.3047677.
- 23) Scheele C., Yu M., and **Huang Q.***, 2021. Geographic Context-aware Text Mining: Enhance Social Media Message Classification for Situational Awareness by Integrating Spatial and Temporal features. *International Journal of Digital Earth*, 14(11):1721-1743. DOI: 10.1080/17538947.2021.1968048
- 24) Liu X., **Huang Q.***, Gao S. and Xia J., 2021. Activity knowledge discovery: Detecting collective and individual activities with digital footprints and open-source geographic data. *Computers, Environment and Urban Systems*, 85, p.101551. DOI: 10.1016/j.compenvurbsys.2020.101551.
- 25) Zou Z*, Gan H., **Huang Q.**, Cai T. and Cao, K., 2021. Disaster Image Classification by Fusing Multimodal Social Media Data. *ISPRS International Journal of Geo-Information*, 10(10), p.636.

- 26) Zhou S., Kan P., **Huang Q.***, and Silbernagel J., 2021. A guided latent Dirichlet allocation approach to investigate real-time latent topics of Twitter data during Hurricane Laura. *Journal of Information Science*, 1-15. DOI: 10.1177/01655515211007724
- 27) Rao J., Gao S.*, Li M. and **Huang Q.**, 2021. A privacy-preserving framework for location recommendation using decentralized collaborative machine learning. *Transactions in GIS*, 25(3): 1153-1175.
- 28) Qin Y*, Zhang X, Zhao Z, Li Z, Yang C, **Huang Q.**, 2021. Coupling Relationship Analysis of Gold Content Using Gaofen-5 (GF-5) Satellite Hyperspectral Remote Sensing Data: A Potential Method in Chahuazhai Gold Mining Area, Qiubei County, SW China. *Remote Sensing*, 4(1):109.
- 29) Vongkusolkij J., and **Huang Q.***, 2020. Situational awareness extraction: a comprehensive review of social media data classification during natural hazards. *Annals of GIS*, 27(1):5-28. DOI: 10.1080/19475683.2020.1817146
- 30) Shen B., Xu X., Li J*, Plaza A., and **Huang Q.**, 2020. Unfolding Spatial-Temporal Patterns of Taxi Trip based on an Improved Network Kernel Density Estimation. *ISPRS International Journal of Geo-Information*, 9(11), 683.
- 31) Li Z*, Tang W., **Huang Q.**, Shook E. and Guan Q., 2020. Introduction to Big Data Computing for Geospatial Applications. *International Journal of Geo-Information*, 9(8): 487.
- 32) Peng B., Meng Z., **Huang Q.***, Wang C., 2019. Patch Similarity Convolutional Neural Network for Urban Flood Extent Mapping Using Bi-Temporal Satellite Multispectral Imagery. *International Journal of Remote Sensing*, 11(21), 2492. DOI: 0.3390/rs11212492.2.
- 33) Yu M*, Bambacus M., Cervone G., Clarke K., Duffy D., **Huang Q.**, Li J., Li W., Li Z., Liu Q. and Resch B., 2020. Spatiotemporal event detection: a review. *International Journal of Digital Earth*, 13(10): 1186 – 1211.
- 34) Yu M*, **Huang Q.**, Scheele C., Han Q., and Yang C., 2019. Deep Learning for Real-Time Social Media Text Classification for Situation Awareness - Using Hurricanes Sandy and Harvey as Case Studies. *International Journal of Digital Earth*, 12(11): 1230-1247. DOI: 10.1080/17538947.2019.1574316.
- 35) Li Z*, **Huang Q.**, and Emrich C.T., 2019. Introduction to social sensing and big data computing for disaster management. *International Journal of Digital Earth*, 12(11): 1198-1204.
- 36) Gao S*, Rao, J., Liu, X., Kang, Y., **Huang Q.**, and App J., 2019. Exploring the Effectiveness of Geomasking Techniques for Protecting the Geoprivacy of Twitter Users. *Journal of Spatial Information Science*, 2019 (19): 105-129.
- 37) Li Z*, **Huang Q.**, Jiang Y., Hu F., 2019. SOVAS: A Scalable Online Visual Analytic System for Big Climate Data Analysis. *International Journal of Geographical Information Science*, 34(6): 1188-1209.
- 38) Liu X., **Huang Q.***, Gao S., 2019. Exploring the Uncertainty of Activity Zone Detection Using Digital Footprints with Multi-Scaled DBSCAN. *International Journal of Geographical Information Science*, 33(6):1196-223. DOI: 10.1080/13658816.2018.1563301.
- 39) Vincent K., Roth R. E*, Moore S. A., **Huang Q.**, Lally N., Sack C., Nost E., and Rosenfeld H., 2018. Improving Spatial Decision Making Using Interactive Maps: An Empirical Study on Interface and Decision Complexity in the North American Hazardous Waste Trade. *Environment and Planning B*, 2018: 2399808318764122.
- 40) Cao K., **Huang Q.***, 2018. Geo-Sensor for Potential Prediction of Earthquakes: Can Earthquake Be Predicted By Abnormal Animal Phenomena? *Annals of GIS*, 24(2): 125-138.
- 41) **Huang Q.***, Li J., Li Z., 2018. A Hybrid Cloud Platform Based on Multi-sourced Computing and Model Resources for Geosciences. *International Journal of Digital Earth*. 11(12): 1184 - 1204.

- 42) **Huang Q.***, Cervone G., and Zhang G., 2017. A Cloud-enabled Automatic Disaster Analysis System of Multi-sourced Data Streams: An Example Synthesizing Social Media, Remote Sensing and Wikipedia Data. *Computers, Environment and Urban Systems*, 66: 23-37.
- 43) **Huang Q.***, 2017. Mining Online Footprints to Predict User's Next Location. *International Journal of Geographic Information Science*, 31(3): 523-541.
- 44) Wong D., **Huang Q.***, 2017. "Vote with Their Feet": Delineating the Sphere of Influence Using Social Media Data. *International Journal of Geo-Information*, 2017, 6 (11), 325. DOI: 10.3390/ijgi6110325.
- 45) Li Z., **Huang Q.***, Carbone G.J., Hu F., 2017. A High Performance Query Analytical Framework for Supporting Data-Intensive Climate Studies. *Computers, Environment and Urban Systems*, 62: 210-221.
- 46) Yang C.*, **Huang Q.**, Li Z., Liu K., Hu F., 2017. Big Data and Cloud Computing: Innovation Opportunities and Challenges. *International Journal of Digital Earth*, 10: 13-53.
- 47) Zhang G.*, Zhu A.X., **Huang Q.**, 2017. A GPU-Accelerated Adaptive Kernel Density Estimation Approach for Efficient Point Pattern Analysis on Spatial Big Data. *International Journal of Geographical Information Science*, 31(10): 2068-2097.
- 48) Li R.*, Feng W., Wu H., **Huang Q.**, 2017. A Replication Strategy for a Distributed High-Speed Caching System Based on Spatiotemporal Access Patterns of Geospatial Data. *Computers, Environment and Urban Systems*, 61: 163-171.
- 49) **Huang Q.***, Wong D., 2016. Activity Patterns, Socioeconomic Status and Urban Spatial Structure: What Can Social Media Data Tell Us? *International Journal of Geographic Information Science*, 30(9): 1873-1898.
- 50) Zhang G.*, **Huang Q.**, Zhu A.X., Keel J. H., 2016. Enabling Point Pattern Analysis on Spatial Big Data Using Cloud Computing: Optimizing and Accelerating Ripley's K Function. *International Journal of Geographical Information Science*, 30 (11): 2230-2252.
- 51) Ye X.*, **Huang Q.**, Li W., 2016. Integrating Big Social Data, Computing and Modeling for Spatial Social Science. *Cartography and Geographic Information Science*, 43(5): 377-378.
- 52) Cervone G.*, Sava E., **Huang Q.**, Schnebele E., Harrison J., Waters N., 2016. Using Twitter for Tasking Remote-Sensing Data Collection and Damage Assessment: 2013 Boulder Flood Case Study. *International Journal of Remote Sensing*, 37(1): 100-124.
- 53) Wang C.*, Pavlowsky R.T., **Huang Q.**, C. Chang, 2016. Channel Bar Area Extraction for a Mining-Contaminated River Using High-Spatial Multispectral Remote Sensing Imagery. *GIScience and Remote Sensing*, 53(3): 283-302.
- 54) Zhang T.*, Li J., Liu Q., **Huang Q.**, 2016. A Cloud-Enabled Remote Visualization Tool for Time-Varying Climate Data Analytics. *Environmental Modeling & Software*, 75: 513-518.
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- 60) Li Z., Yang C.*, **Huang Q.**, Liu K., Sun M., Xia J., et al., 2014. Building Model as a Service to Support Geosciences. *Computers, Environment and Urban Systems*. DOI: 10.1016/j.compenvurbsys.2014.06.004.
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- 63) **Huang Q.**, Yang C.*, Liu K., Xia J., Xu C., Li J., Gui Z., Sun M., Li Z., 2013. Evaluating Open Source Cloud Computing Solutions for Geosciences. *Computers & Geosciences*, 59(9): 41-52.
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- 72) **Huang Q.**, Mao S., Li M., Ru P., 2006. The Safety Assurance System for Coalmine Based on the Three-tiers B/S Architecture. *Coal Engineering*, 2006(11): 10-14. (Chinese)
- 73) Zhao P., Mao S., **Huang Q.**, Cheng L., 2007. Design on Intelligent Decision Support System for Mining and Excavation Connection in Mine. *Coal Science and Technology*, 2007(03): 55-60. (Chinese)

2.2.5 Refereed Conference Papers

Full-length, equivalent to journal articles

- 1) Yang S., Peng B., Sui T. and **Huang Q.***, 2024, October. Self-supervised Pretraining with Edge Guidance for Building Damage Assessment. In *Proceedings of the 7th ACM SIGSPATIAL*

International Workshop on AI for Geographic Knowledge Discovery, Oct 29 – Nov 1, 2024, Atlanta GA USA, pp. 67-70.

- 2) Liu X., Peng B., Wu M., Wang M., Cai H. and **Huang Q.***, 2024. Occupation Prediction with Multimodal Learning from Tweet Messages and Google Street View Images. In *Proceedings of 2024 Agile Conference*, June 4-7, 2024, Glasgow, UK, pg.1-6.
- 3) Wu M., **Huang Q.***, Gao S., 2023. Measuring access inequality in a hybrid physical-virtual world: A case study of racial disparity of healthcare access during CoVID-19. In *Proceedings of 2023 30th International Conference on Geoinformatics*, Jul 19-21, 2023 London, UK, pg.1-10. DOI: 10.1109/Geoinformatics60313.2023.10247690.
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- 6) Peng B., Liu X., Meng Z., and **Huang Q.***, 2019. Urban Flood Mapping with Residual Patch Similarity Learning. In *Proceedings of the 3rd ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI 2019)*, Nov 5-8, Chicago, IL, USA, p.40–47. DOI:<https://doi.org/10.1145/3356471.3365235>.

Short paper, 4-6 pages

- 7) Sui T., Yang S., and **Huang Q.***, 2025. SpecSwin: A Hyperspectral Data Simulation Framework for Scalable Geospatial Modeling. In *Proceedings of the 1st ACM SIGSPATIAL Workshop on GeoSpatial Simulation (GeoSim 2025)*, ACM SIGSPATIAL 2025, 3 Nov - 6 Nov 2025, Minneapolis, MN, USA. (Accepted for Publication)
- 8) Huang Z., Gao S., and **Huang Q.***, 2025. High-Spatiotemporal-Resolution PM2.5 Mapping in California: 6-Hourly Estimates with 3-km HRRR-Smoke. In *Proceedings of the 1st ACM SIGSPATIAL Workshop on Geospatial Computing for Public Health (GeoHealth'25)*, ACM SIGSPATIAL 2025, 3 Nov - 6 Nov 2025, Minneapolis, MN, USA. (Accepted for Publication)
- 9) Wu M.*, **Huang Q.** and Gao S., 2025. Advancing mixed land use detection by embedding spatial intelligence into vision-language model. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*. (Accepted for Publication)
- 10) Wu M.D., **Huang Q.***, Sui T., Wu M., 2023. Pixel-wise Wildfire Burn Severity Classification with Bi-temporal Sentinel-2 Data and Deep Learning. In *Proceedings of the 6th International Conference on Big Data Technologies (ICBDT 2023)*, Sep 22-24, 2023, Qingdao, China, pg.1-6.
- 11) Cai T., Gan H., Peng B., **Huang Q.**, and Zou Q., 2022. Real-time Classification of Disaster Images from Social Media with a Self-supervised Learning Framework. In *Proceedings of the 2022 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 17 – 22 July, 2022, Kuala Lumpur, Malaysia, pp. 671-674. doi: 10.1109/IGARSS46834.2022.9883129
- 12) Zou B., Peng B., **Huang Q.***, 2022. Flood Depth Assessment with Location-Based Social Networks Data and Google Street View — a Case Study with Buildings as Reference Objects. In *Proceedings of the 2022 IGARSS*, 17 – 22 July, 2022, Kuala Lumpur, Malaysia, pp.1344-1347. doi: 10.1109/IGARSS46834.2022.988425
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- 14) Meng Z., Peng B., **Huang Q.***, 2019. Flood Depth Estimation from Open Images. In *Proceedings of the 2nd ACM SIGSPATIAL International Workshop on Advances on Resilient and Intelligent Cities*, ACM SIGSPATIAL 2019, Nov 5-8, Chicago, IL, USA, pp. 1-6. Doi: <https://doi.org/10.1145/3356395.3365542>
- 15) Zhou Z., Xie X., **Huang Q.**, 2018. Enhancing the Impression on Cities: Mining Relations of Attractions with Geo-tagged Photos. In *proceedings of the 2018 IEEE Cloud and Big Data Computings*, Guangzhou, China, October 7-11, 2018, pg. 1-7.
- 16) Gao S., **Huang Q.**, 2018. Exploring the Effectiveness of Geomasking Techniques for Protecting the Geoprivacy of Twitter Users. In *proceedings of the Location Privacy & Security Workshop*, GIScience 2018, Aug 28-31, 2018, Melbourne, Australia, pg. 1-8.
- 17) Liu X., **Huang Q.***, Li Z., Wu M., 2017. The Impact of MTUP: Explore Online Trajectories for Human Mobility Studies. In *Proceedings of the 1st Workshop on Prediction of Human Mobility*, ACM SIGSPATIAL 2017, Nov 7-10, Redondo Beach, CA, USA, pg.1-9.
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- 19) **Huang Q.***, Cervone G., Jing D., Chang C., 2015. DisasterMapper: A CyberGIS Framework for Disaster Management Using Social Media Data. In *Proceedings of the 4th International ACM SIGSPATIAL Workshop on Analytics for Big Geospatial Data (Big Spatial)*, ACM SIGSPATIAL 2015, Nov 1-3, Seattle, WA, pg.1-6.
- 20) Chang C., Ye Z., **Huang Q.**, Wang C. 2015. An Integrative Method for Mapping Urban Land Use Change Using Geo-sensor Data. In *Proceedings of the 1st International ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics*, ACM SIGSPATIAL 2015, Nov 1-3, Seattle, WA.
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- 22) **Huang Q.***, Cao G., Wang C., 2014. From Where Do Tweets Originate? - A GIS Approach for User Location Inference. In *Proceedings of the 7th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN '14)*, ACM SIGSPATIAL 2014, Nov 6-9, Dallas, TX, pg. 1-8.
- 23) Li Z., Yang C.*, Sun M., Li J., Xu C., **Huang Q.**, Liu K., 2013. A High Performance Web-Based System for Analyzing and Visualizing Spatiotemporal Data for Climate Studies. In *Proceedings of International Symposium on Web and Wireless Geographical Information Systems*, pp. 190-198. Springer, Berlin Heidelberg.
- 24) **Huang Q.**, Xia J., Yang C.*, Hassan M., Chen S., 2012. An Experimental Study of Open-Source Cloud Platforms for Dust Storm Forecasting. In *Proceedings of the ACM SIGSPATIAL 2012*, Nov 6-9, Redondo Beach, CA, pp.534-537.
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- 26) **Huang Q.**, Yang C.*, Nebert D., Liu K., Wu H., 2010. Cloud Computing for Geosciences: Deployment of GEOSS Clearinghouse on Amazon's EC2. In *Proceedings of the International Workshop on High Performance and Distributed Geographic Information Systems*, ACM SIGSPATIAL 2010, Nov 2-5, 2010, San Jose, CA, USA.

2.2.6 Refereed Book Chapters & Sections

- 1) Wu M. and **Huang Q.***, 2025. From human mobility to social segregation: what insights can social media data provide? In: Huang X, Ye X, Stewart K and Das S., eds.. *Urban Human Mobility: Practices, Analytics, and Strategies for Smart Cities*, pp. 264-282. CRC Press. ISBN 9781003503262 (doi: [10.1201/9781003503262-26](https://doi.org/10.1201/9781003503262-26)).
- 2) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. NoSQL Databases. In *Open GIS*, pp. 143-171. Cham: Springer International Publishing.
- 3) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open-Source Data Formats and Open Services. In *Open GIS* (pp. 27-47). Cham: Springer International Publishing.
- 4) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open Raster Data Analysis. In *Open GIS* (pp. 199-224). Cham: Springer International Publishing.
- 5) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Programming Libraries, APIs, and Tools. In *Open GIS* (pp. 225-258). Cham: Springer International Publishing.
- 6) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open GIS for Disasters. In *Open GIS* (pp. 333-342). Cham: Springer International Publishing.
- 7) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open GIS for Public Health. In *Open GIS* (pp. 317-331). Cham: Springer International Publishing.
- 8) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open Vector Analysis. In *Open GIS* (pp. 175-198). Cham: Springer International Publishing.
- 9) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Database Fundamentals. In *Open GIS* (pp. 49-96). Cham: Springer International Publishing.
- 10) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open GIS in the New Big Data Era. In *Open GIS* (pp. 3-9). Cham: Springer International Publishing.
- 11) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Desktop-Based Mapping and Visualization Tools. In *Open GIS* (pp. 261-282). Cham: Springer International Publishing.
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- 14) Xia J., **Huang Q.**, Gui Z. and Tu W., 2024. Open data. In *Open GIS* (pp. 11-24). Cham: Springer International Publishing.
- 15) Guo C.A., and **Huang Q.***, 2021. Examining spatiotemporal and sentiment patterns of evacuation behavior during 2017 hurricane Harvey. In *Empowering Human Dynamics Research with Social Media and Geospatial Data Analytics*, pp. 139-165. Springer, Cham.
- 16) **Huang Q.***, Li J., Zhang T., 2020. Domain Application of High Performance Computing in Earth Science: An Example of Dust Storm Modeling and Visualization. In Wu W., and Wang S., eds. *High Performance Computing for Geospatial Applications*, pp. 249-268. Cham: Springer.
- 17) Ye X., Li W., **Huang Q.**, 2018. A Synthesized Urban Science in the Context of Big Data and Cyberinfrastructure. In Shen Z. and Li M., eds. *Big Data Support of Urban Planning and Management: The Experience in China*, pp. 435-448. Cham: Springer International Publishing.
- 18) **Huang Q.***, Yang C., 2017. Chapter 3 Introduction to Python. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.

- 19) **Huang Q.***, Yang C., 2017. Chapter 4 Python Language Control Structure, File Input/Output and Exception Handling. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.
- 20) Yang C., **Huang Q.**, 2017. Chapter 5 Programming Thinking and Vector Data Visualization. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.
- 21) Yang C., **Huang Q.**, Liu K., 2017. Chapter 6 Shapefile Handling. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.
- 22) Liu K, Yang C., **Huang Q.**, 2017. Chapter 7 Python Programming Environment. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.
- 23) Li Z., Yang C., Sun M., **Huang Q.**, 2017. Chapter 8 Vector Data Algorithm. In Yang C. and Huang Q., 2017, eds. *Introduction to Programming and GIS Algorithms with Python and ArcGIS*, CRC Press/Taylor & Francis, 328p. ISBN: 978-1466510081.
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- 25) **Huang Q.***, Cervone G., 2016. Usage of Social Media and Cloud Computing during Natural Hazards. In Vance T., Merati N., Yang C., and Yuan M., eds. *Cloud Computing for Ocean and Atmospheric Sciences*. Academic Press.
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- 27) Yang C. *, Sun M., Liu K., **Huang Q.**, Li Z., Gui Z., ... & Lostritto P., 2015. Contemporary Computing Technologies for Processing Big Spatiotemporal Data. In Kwan M.P, Richardson D., Wang D., and Zhou C., eds. *Space-Time Integration in Geography and GIScience*, pp. 327-351. Springer Netherlands.
- 28) **Huang Q.***, Li Z., Liu K., Xia J., Xu C., Jiang Y., Yu M., Yang C.*, 2014. Accelerating Geocomputation with Cloud Computing. In Shi X., Kindratenko V., and Yang C., eds. *Modern Accelerating Technologies for GIScience*. Springer.
- 29) Li J., Jiang Y., Yang C.*, **Huang Q.**, 2014. Utilizing GPU to Support Scientific Visualization in Geosciences. In Shi X., Kindratenko V., and Yang C., eds. *Modern Accelerating Technologies for GIScience*. Springer.
- 30) Yang C. *, Liu K., Nebert D., Li Z., Li W., Wu H., Li J., Sun M., Miao L., **Huang Q.**, Xu Y., Fay D., 2014. GEOSS Clearinghouse - Integrating Geospatial Resources to Support the Global Earth Observation System of Systems. In Karimi H.A., eds. *Big Data: Techniques and Technologies in Geoinformatics*. CRC Press.
- 31) **Huang Q.***, Xia J., Yu M., Benedict K., Bambacus M., 2013. Cloud-Enable Dust Storm Forecasting. In Yang C., Huang Q. eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 32) **Huang Q.***, Xia J., Sun M., Liu K., Li J., Gui Z., Xu C., Yang C., 2013. How to Test the Readiness of Open Source Solutions. In Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.

- 33) **Huang Q.***, Li Z., Liu K., Xia J., Jiang Y., Xu C., Yang C., 2013. Handling of Data, Computing, Concurrent and Spatiotemporal Intensities. In Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
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- 39) Liu K., Nebert D., **Huang Q.**, Xia J., Li Z., 2013. Cloud-Enable GEOSS Clearinghouse. In Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 40) Li J., Li Z., **Huang Q.**, Sun M., Liu K., 2013. Cloud-Enabling Climate@Home. In Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 41) Xu C., Xia J., **Huang Q.**, Yu M., Bambacus M., 2013. Cloud services. In: Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 42) Yang C., Sun M., Xia J., Li J., Liu K., **Huang Q.**, Gui Z., 2013. How to Test the Readiness of Cloud Services. In: Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 43) Xu C., Gui Z., Li J., Liu K., **Huang Q.**, Bambacus M., 2013. Open Source Cloud Computing Solutions. In: Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
- 44) Nebert D., **Huang Q.**, 2013. GeoCloud Initiative. In Yang C., Huang Q., eds. *Spatial Cloud Computing: A Practical Approach*, CRC Press/Taylor & Francis.
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- 46) Yang C., Wu H., **Huang Q.**, Li Z., Li J., Li W., Miao L., Sun M., 2011. WebGIS Performance Issues and Solutions. In Li S., Dragicevic S., and Veenendaal B., eds. *Advances in Web-based GIS, Mapping Services and Applications*, pp.121-138. Taylor and Francis.
- 47) **Huang Q.**, Yang C., Li W., Wu H., Xie J., and Cao Y., 2010. Geoinformation Computing Platforms. In Yang C., Wong D., Miao Q., and Yang R., eds. *Advanced GeoInformation Science*, pp.79-127. CRC Press.

2.2.7 Refereed Encyclopedia Entry

- 1) **Huang Q.***, 2020. Spatial Cloud Computing. In John P. Wilson, eds. *The Geographic Information Science & Technology Body of Knowledge* (1st Quarter 2018 Edition). DOI: 10.22224/gistbok/2020.1.2.
- 2) **Huang Q.***, 2019. Mobile GIS. In John P. Wilson, eds. *The Geographic Information Science & Technology Body of Knowledge* (1st Quarter 2018 Edition). DOI: 10.22224/gistbok/2020.1.2.

- 3) **Huang Q.***, 2018. Social Media Analytics. In John P. Wilson, eds. *The Geographic Information Science & Technology Body of Knowledge* (1st Quarter 2018 Edition). DOI:10.22224/gistbok/2018.1.10.
- 4) Wang C., **Huang Q.**, 2018. UAV Image Processing and Analysis for Disaster Management. In Phil Laplante, eds. *Encyclopedia of Image Processing*. Springer.
- 5) **Huang Q.***, 2016. MapReduce. In Shekhar S., Xiong Hui, eds. *Encyclopedia of GIS*. Springer.

2.2.8 Semi-Refereed (Abstracts only) Conference Papers

- 1) **Huang Q.**, Liu H., Sui T., Yang S., Gao S., 2025. Deep Learning Approach to Improve Spatial Resolution of GOES Satellite Imagery for Active Fire Detection Using VIIRS Satellite Data, GIScience 2025, Aug 26-29, Christchurch, New Zealand.
- 2) Sui T., **Huang Q.**, Wu M.D, Wu M.L., 2023. Empowering Urban Wildfire Burnt Area Detection with Deep Learning, Global Smart Cities Summit & The 3rd International Conference on Urban Informatics (GSCS & ICUI 2023), Aug 20-23, Hong Kong.
- 3) Wong D., **Huang Q.**, 2016. Variability in Activity Zones Identification in the Modeling of Spatiotemporal Trajectories. In *International Conf. on Spatial Accuracy Assessment in Environmental Sciences 2016*, July 5-8, 2016, Montpellier, French.
- 4) Yu M., Yang C., **Huang Q.**, Gui Z., and Xia J., 2013. Utilizing high spatiotemporal resolution soil moisture for dust storm modeling. In *Second International Conference on Agro-Geoinformatics*, Aug 12-16, 2013, Fairfax, VA, pp. 176-181. IEEE.
- 5) Qu X., Sun M., Xu C., Li J., Liu K., Xia J., **Huang Q.**, Bambacus M., Xu Y., Fay D., Yang C. 2011. A Spatial Web Service Client based on Microsoft Bing Maps. In *The 19th International Conference on Geoinformatics*, June 24-26, 2011, Shanghai, China.
- 6) **Huang Q.**, Mao S., Jiang Y., Ru B., Li M., Dong P., 2009. Utilizing Particle System to Simulate Airflow of Laneway in Underground Mine Environment. In *The 17th International Conference on Geoinformatics*, Aug 12-14, 2009, pp.1-6, DOI: 10.1109/GEOINFORMATICS.2009.5293434.
- 7) Li J., Wu. H., Yang C., Xie J., **Huang Q.**, 2009. Using Progressive Transmission of 3D/4D Geospatial Information over the Internet to Facilitate Geo-Visualization in world wind. In *The 17th International Conference on Geoinformatics*, Aug 12-14, 2009, art. no. 5293460.
- 8) Zhou Z., Zhou B., Li W., Griglak B., Caiseda C., **Huang Q.**, 2009. Evaluating Query Performance on Object-Relational Spatial Databases. In *The 2nd IEEE International Conference Computer Science and Information Technology*, 2009, pp.489-492, Qingdao, China.
- 9) Bambacus M., Yang C., Evans J., Li Z., Li W., **Huang Q.**, 2008. Sharing Earth Science Information to Support the Global Earth of Observing System of Systems (GEOSS), *International Geoscience and Remote Sensing Symposium (IGARSS)*, 1(1), art. no. 4778813, pp. I141-I144.
- 10) Xie J., Yang C., **Huang Q.**, Cao Y., Kafatos M., 2008. Utilizing Grid Computing to Support Near Real-Time Geospatial Applications, *International Geoscience and Remote Sensing Symposium (IGARSS)* 2(1), art. no. 4779239, pp. 1290-1293.

2.3 SOFTWARE PROTOTYPE AND PATENT

- Yang C., Li J., Jiang Y., **Huang Q.**, 2011. Visualizing Volume Data of Atmospheric Particles in a Real 3D/4D/5D Fashion.

3. TEACHING

3.1 INSTRUCTOR OF RECORD

*At UW-Madison unless otherwise noted.

- GEOG 170, Our Digital Globe: An Overview of GIScience and its Technology (20 times with **700+** undergraduates annually: 450+ for Spring semester, and 250+ for Fall semester)
- GEOG 574, Spatial Database (8 times with ~35 graduates and undergraduates)
- GEOG 576, Spatial Web and Mobile Programming (1 time with 20+ graduates and undergraduates)
- GEOG 970, Seminar in Geographic Information Science (2 times with 10+ graduates)
- GGS 650, Introduction to Programming and GIS Algorithms (2012 Fall; GMU)

3.2 TEACHING ASSISTANT

- GEOG 563, Advanced Geographic Information System, 2008 Spring (GMU)
- GGS 650, Introduction to Programming and GIS Algorithms, 2011 Fall (GMU)
- GGS 772, Distributed GIS, 2012 Spring (GMU)

3.3 STUDENTS MENTORING

3.3.1 Served as primary advisor

Graduate (Completed; 11 In Total: 3 Ph.D and 8 M.S.)

- 1) Ashmita Dhakal, 9/2023 – 5/2025, Msc. Student of Geography, UW-Madison
- 2) Meiliu Wu, 1/2020- 5/2024, Ph.D. Student of Geography, UW-Madison; Lecturer (Assistant Professor), University of Glasgow
- 3) Yi Zhuang, 4/2023 – 4/2024, Msc. Student of Data Science, Columbia University; Ph.D Student of Data Science, UW-Madison
- 4) Jamp Vongkusolkiet, 8/2020 – 8/2022, Msc. Student of Geography, UW-Madison; Research Scientist, PingAn Inc Research Lab
- 5) Bo Peng, 8/2017-12/2022, Ph.D. Student of Geography, UW-Madison; Senior research Scientist, PAII Inc Research Lab
- 6) Xinyi Liu, 8/2016 - 8/2018 (Msc.), 8/2018 – 5/2023, Ph.D Student of Geography, UW-Madison; Senior software engineer, Zoo X Inc.
- 7) Meiliu Wu, 8/2017 - 8/2019, Msc. Student of Geography, UW-Madison; Software engineer, Huawei
- 8) Chris Jeffery Scheele, 8/2015 – 8/2017, Msc. Student of Geography, UW-Madison; Project Manager, Arity LLC.
- 9) Zidong Zhang, 8/2014 – 6/2016, Msc. Student of Geography, UW-Madison; Facebook, Senior Software Engineer (2016-2023); Founder, Snapchain (2023-present);
- 10) Duanyang Jing, 8/2014 – 8/2016, Msc. Student of Geography, UW-Madison; Senior software engineer, Huawei
- 11) Zekai Xu, 6/2024 – 7/2025, Msc. Student of Statistics & Geography, UW-Madison

Undergraduate (Completed; 14 In Total)

- 1) Alexandra Kocheny, 9/2023 – 5/2025, Undergraduate, Data Science & Geography, UW-Madison

- 2) Clara Tu, 9/2023 – 5/2025, Undergraduate, Data Science & Economics, UW-Madison
- 3) Mose Henry Skolnick, 1/2023 – 5/2025, Undergraduate, Geography & Data Science, UW-Madison
- 4) Baichuan Ni, 12/2023 – 6/2024, Undergraduate, Data Science, UW-Madison
- 5) Linbo Tang, 6/2022 – 6/2024, Undergraduate, Data Science & Computer Science, UW-Madison
- 6) Tang Sui, 8/2022 – 6/2024, Undergraduate, Geography, Tongji University
- 7) Mingda Wu, 12/2022 – 6/2024, Undergraduate, Geography, Northern Illinois University
- 8) Yutong Jiang, 3/2022 – 6/2024, Undergraduate, Geography, UW-Madison
- 9) Boyuan Zhou, 9/2020 – 6/2023, Undergraduate, Computer Science, UW-Madison
- 10) Yang Qiu, 5/2021 – 6/2023, Undergraduate, Data Science & Computer Science, UW-Madison
- 11) Tianhui Cai, 6/2021 – 8/2022, Undergraduate, Computer Science, UIUC
- 12) Zonglin Meng, 9/2018 – 6/2020, Undergraduate, Computer Science, UW-Madison
- 13) Jamp Vongkusolkit, 8/2018 – 6/2020, Undergraduate, Environmental Science, Nelson Institute, UW-Madison
- 14) Yuehan Qin, 4/2019 – 6/2022, Undergraduate, Geography & Computer Science, UW-Madison

Graduate (In Progress; 7 In Total: 3 Ph.D and 4 M.S.)

- 1) Zekai Xu, 8/2025 - present, Ph.D. Student of Environmental Studies, UW-Madison
- 2) Tang Sui, 9/2024 – present, Msc. Student of Geography, UW-Madison
- 3) Kun Cai, 9/2024 – present, Msc. Student of Geography (Accelerated, non-thesis program), UW-Madison
- 4) Zhan Shi, 11/2024 – present, Msc. Student of Geography (Accelerated, non-thesis program), UW-Madison
- 5) Hongbo Zhang, 1/2025 – present, Msc. Student of Geography (Accelerated, non-thesis program), UW-Madison
- 6) Songxi Yang, 9/2023 – present, Ph.D. Student of Geography, UW-Madison
- 7) Chenxiao (Atlas) Guo, 8/2017 - present, Ph.D. Student of Geography, UW-Madison

Undergraduate (In Progress; 3 In Total)

- 1) Jiayi (Ainsley) Zhang, 7/2023 – present, Undergraduate, Computer Science, UW-Madison
- 2) Haiyue Liu, 6/2023 – present, Undergraduate, Geography, UW-Madison
- 3) Ming Wang, 1/2025 – present, Undergraduate, Geography, UW-Madison

3.3.2 Served as committee member

- 1) Yijia Xu, 2023. Large-Scale Crop Mapping through Label-Efficient Deep Learning Methods. Ph.D. Student of Biological Systems Engineering, UW-Madison.
- 2) Jianxiang Qiu, 2023. *Optimizing Best Management Practices (BMPs) for Watershed Plans Considering Temporal Dynamics, Maintenance, and Investment Constraints*. Msc. Student of Geography, UW-Madison.
- 3) Yuchi Ma, 2022. *County-Level Corn Yield Prediction with Deep Learning*. Ph.D. Student of Biological Systems Engineering, UW-Madison.

- 4) Noral Schlenker, 2022. *Understanding Abrupt Ecological Change and Truncated Niches via Networks of Fossil Pollen Records at Local to Global Scales*. PhD, Student of Geography, UW-Madison.
- 5) Jinmeng Rao, 2022. *Trajectory Privacy Protection with Geospatial Artificial Intelligence*. PhD, Student of Geography, UW-Madison.
- 6) Yuhao Kang, 2022. *Understanding Human Perception of Place with Geospatial Data Science*. PhD, Student of Geography, UW-Madison.
- 7) Yunlei Liang, 2022. *Understand Health Care Shortage Through Community Detection on Spatial Networks*. PhD, Student of Geography, UW-Madison.
- 8) Yuqin Jiang, 2022. *Quantifying Human Mobility Patterns during Disruptive Events: A Big Data Approach*. Ph.D. Student of Geography, University of South Carolina.
- 9) Kyler J. Hudson, 2022. *The Spatial Variation of Geographic Polarization in the United States*. Msc. Student of Geography, UW-Madison.
- 10) Yuhao Kang, 2020. *Integrating Artificial Intelligence in Cartography: Using Deep Learning for Map Style Transfer and Map Generalization*. Msc. Student of Geography, UW-Madison.
- 11) John Reimer, 2020. *Water Quantity and Quality of the Yahara River Chain of Lakes*. Ph.D. Student of Civil and Environmental Engineering, UW-Madison.
- 12) Suzan Afacan, 2019. *Network Optimization Models for Interdependent Infrastructure Restoration*. Ph.D. Student of Industrial and Systems Engineering, UW-Madison.
- 13) Sulong Zhou, 2019. *Machine Learning and Citizen Science Based Approach for Monitoring the Changing Environment*. Ph.D. Student of Environmental Science, Nelson Institute, UW-Madison.
- 14) Guiming Zhang, 2018. *A representativeness directed approach to spatial bias mitigation in VGI for predictive mapping*. PhD, Student of Geography, UW-Madison.
- 15) Merve Ozen, 2017. *Models to Improve Efficiency of Disaster Relief Operations*. Ph.D. Student of Industrial and Systems Engineering, UW-Madison.
- 16) Kristen L. Vincent, 2017. *The Role of Cartographic Interface Complexity on Spatial Decision Making: A Case Study in the North American Hazardous Waste Trade*. Msc. Student of Geography, UW-Madison.
- 17) Starr Moss, 2017. *The Relationship between Voting and Crime: A Neighborhood- Level Spatiotemporal Analysis*. Msc. Student of Geography, UW-Madison.
- 18) Zihan Song, 2017. *Map-Based Visual Storytelling: an Assessment of Emerging Genres and Tropes*. Msc. Student of Geography, UW-Madison.
- 19) Jeffrey S. Hatzel, 2017. *Spatial Characteristics of Intraspecific Variation in *Peromyscus maniculatus* based on DNA Barcodes and Environmental Data*. Msc. Student of Geography, UW-Madison.
- 20) Scott Sherwin Farley, 2017. *A User-Centered Approach to Computing Optimization in Ecological Modeling Workflows*. Msc. Student of Geography, UW-Madison.
- 21) Chaoyi Chang, 2016. *Using New Communication Technologies to Study Politics in Authoritarian China*. PhD, Student of Nelson Institute for Environmental Studies, UW-Madison.
- 22) Robin C. Tolochko, 2016. *Contemporary Professional Practices in Interactive Web Map Design*. Msc. Student of Geography, UW-Madison.
- 23) Yuying Chen, 2015. *Point Object Extraction from Scanned Topographic Maps*. Msc. Student of Geography, UW-Madison.

- 24) Caroline Rose, 2015. *Mapping Technology in Wilderness Search and Rescue*. Msc. Student of Geography, UW-Madison.
- 25) Timothy T. Kennedy, 2014. *Modeling the Multi-dimensional Factors of Parcelization and the Spatial Connection to Land-Use Change in Rural Wisconsin*. PhD. Student of Geography, UW-Madison.
- 26) Erin Hamilton, 2014. *Client-Side versus Server-Side Geoprocessing: Benchmarking the Performance of Web Browsers Processing Geospatial Data Using Common GIS Operations*. Msc. Student of Geography, UW-Madison.

3.3.3 Served as advisor for GIS Certificate students

- Kuang-Cheng Cheng, 2023. *Aggregate and visualize ridership data for Taipei Metro system*.
- Jonathan Fok, 2017. *Comparison of Food Access Areas in Urban Communities in the United States*.
- Beichen Tian, 2017. *Interactive Web Mapping for Pollinator Habitat Suitability Evaluation*.
- Cassie Jorgenson, 2016. *Fine-Scale temperature changes at U. S. Marine Protected Areas using 28 years of AVHRR Pathfinder SST data*.
- Chris Jeffery Scheele, 2015. *WxDelaycast: A Mobile Website for Commercial Aviation Delays by Weather Forecast*.
- Samuel Schumacher, 2014. *Implementing a high-resolution Geocoding system*.

3.3.4 Others

- Dissertation reviewer: Clemens Havas, 2021. *Semantic and Geospatial Analysis of Geo-Social Media Data for Humanitarian Aid*. Ph.D. Student of Geoinformatics, University of Salzburg.
- Cart/GIS doctoral minor faculty (provide suggestions of classes for the minor): Annalisa Stevenson, 2022. Department of Soil Science, UW-Madison.

4. SERVICE AND OUTREACH

4.1 DEPARTMENT SERVICE

- 2022 - 2026: Chair, UW-Madison Geography GISSPP Oversight Committee
- 2023 - 2026: Member, UW-Madison Geography Advisory Committee
- 2022 - 2024: Member, UW-Madison Geography Faculty Compensation Committee
- 2022: Member, UW-Madison Geography Space Committee
- 2021: Member, UW-Madison Geography Geocomputing Committee
- 2020: Member, UW-Madison Geography Curriculum Committee
- 2020: Member, UW-Madison Geography Faculty and Staff Development Committee
- 2019: Chair, UW-Madison Geography Faculty Tenure Committee
- 2018: Alternative, UW-Madison Faculty Senate, Geography Representative
- 2017: Member, Professional MSc in GIS Professional Programs Committee
- 2016: Member, UW-Madison Search Committee for Hire in Cartography/GIS
- 2015 - present: Member, UW-Madison Geography Undergraduate Affairs Committee
- 2015 - 2017: Alternative, UW-Madison Faculty Senate, Geography Representative

- 2014: Primary, UW–Madison Faculty Senate, Geography Representative
- 2014: Member, Yi-Fu Geography Lecture Series Speakers Committee
- 2013: Member, UW-Madison Geography Geocomputing Committee

4.2 INTERNAL SERVICE

- 2022 -2025: Member, Physical Science Divisional Committee
- 2025: Physical Sciences Faculty Fellows Selection Committee
- 2025: Geoscience Dept. RISE-EARTH Faculty Search Committee
- 2022: Reviewer, Wisconsin Agricultural Experiment Station (WAES) Proposals
- 2021: Panelist, Tenure Workshop for Faculty in Physical Sciences
- 2021: Faculty table guest, Women in Science & Engineering (WISE) Seminar
- 2020: Member, UW–Madison Department of Computer Sciences Professional Masters Program Review Committee
- 2018, Reviewer, UW2020 Research and Infrastructure Proposals

4.3 EXTERNAL SERVICE

- 2025, External Reviewer for Associate Professor Promotion (3 cases)
- 2025, External Reviewer for Full Professor Promotion (2 cases)
- 2025, Editor Board, Applied Spatial Analysis and Policy
- 2025, Proposal reviewer, Research Grants Council of Hong Kong Humanities, Social Sciences (4 proposals)
- 2025, Proposal reviewer, Cyberinfrastructure for Sustained Scientific Innovation (CSSI), NSF
- 2025, Reviewer, Human-Environment and Geographical Sciences (HEGS) Program, NSF
- 2024, Tenure Promotion External Reviewer (1 case)
- 2024, Proposal reviewer, Research Grants Council of Hong Kong Humanities, Social Sciences (2 proposals)
- 2023, Editor Associate, Geo-spatial Information Science (GSIS)
- 2023, Natural Hazards Awards Committee, American Geophysical Union (AGU)
- 2023, Panelist, Human-Environment and Geographical Sciences (HEGS) Program, NSF
- 2023, Proposal reviewer, Research Grants Council of Hong Kong Humanities, Social Sciences (2 proposals)
- 2022, Outstanding Student Presentation Awards (OSPA) Program Coordinator, AGU
- 2022, Proposal reviewer, NC Space Grant, North Carolina
- 2022 - present, Editorial Board, *International Journal of Digital Earth (IJDE)*
- 2022 - present, Editorial Board, *Remote Sensing*
- 2020, Tenure Promotion External Reviewer, 1 case
- 2019 - present, Newsletter Editorial Committee, International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)
- 2019 – present, Proposal reviewer for NSF (HEGS) and NASA
- 2019 - present, Editorial Board, Geo-spatial Information Science
- 2016 - present, OSPA Program Liaison and Judge, AGU

- 2015 - 2016, Past Chair, Cyberinfrastructure Specialty Group (CISG), American Association of Geographers (AAG)
- 2014 - 2015, Chair, CISG, AAG
- 2013 - 2014, Vice Chair, CISG, AAG
- 2011 - 2013, Board Director, CISG, AAG
- 2011 - 2013, Assistant Chair, Cloud Computing Cluster, Federation of Earth Science Information Partners (ESIP)
- 2010 - 2011: Communication Manager, CISG, AAG
- 2009 - 2010: Web Master, CISG, AAG
- 2009 - 2010, System Administrator, Chinese Professional in Geographic Information Systems
- 2009 - 2010, Web Master, Chinese-American Oceanic and Atmospheric Association

4.4 INVITED TALKS/CONFERENCE PRESENTATIONS

* The presenter is underlined.

- 1) Huang Q., 2025. Advancing Self-supervised Learning for Building Damage Assessment with Denoising Autoencoder and Transfer Learning. 2025 AAG Annual Meeting, March 24 –28, 2025, Detroit, MI.
- 2) Sui T., Huang Q., 2025. "Quasi-Hyperspectral Image": Constructing Hyperspectral Imagery from Multispectral Data Using Convolutional Neural Networks. 2025 AAG Annual Meeting, March 24 –28, 2025, Detroit, MI.
- 3) Guo C., Huang Q., 2025. Mining Multimodal Social Media Data for Disaster Management. 2025 AAG Annual Meeting, March 24 –28, 2025, Detroit, MI.
- 4) Huang Q., 2025. Empowering Rapid Disaster Mapping and Damage Assessment with Big Sensor Data and GeoAI: Case Studies of Wildfires and Floods. UW-Madison, Nelson Institute of Environmental Studies, the Climate, People, and Environment Program (CPEP) seminar series, March 4. (Invited)
- 5) Huang Q., Wu M., 2024. Wildfire Burn Severity Assessment with Deep Learning and Bi-Temporal Sentinel-2 Imagery. 2024 American Geophysical Union (AGU) Fall Meeting, Dec 8–12, 2024, Washington DC. (Invited)
- 6) Huang Q., 2024. Transforming Disaster Response: Unlocking the Power of GeoAI and Big Sensor Data, Seminar, Northern Illinois University, Oct 11, 2024. (Invited)
- 7) Huang Q., 2024. Advancing Social Equality and Environmental Justice through Geospatial Big Data and GeoAI, Computational Social Science Seminar, Duke University, Feb 26, 2024. (Invited)
- 8) Huang Q., Wu M., Sui T., 2023. Empowering Wildfire Damage Assessment with Bi-temporal Sentinel-2 Data and Deep Learning. 2023 American Geophysical Union (AGU) Fall Meeting, Dec 11–15, 2023, San Francisco, CA. (Invited)
- 9) Huang Q., 2023. Revolutionizing Disaster Response: Unleashing the Power of GeoAI and Big Sensor Data, GIS Day @ University of Idaho, University of Idaho, Nov 15, 2023. (Invited)
- 10) Huang Q., 2023. Trajectory Data Enrichment and Learning. Salad Seminar, Department of Psychology, UW–Madison, Sep 27, 2023. (Invited)
- 11) Huang Q., 2023. Trajectory Data Enrichment, Learning and Application. Geography Seminar, Huadong Normal University, Aug 9, 2023. (Invited)

- 12) **Huang Q.**, 2023. GeoAI for Geospatial Applications. Geography Seminar, Nanjing Normal University, Aug 1, 2023. (Invited)
- 13) **Huang Q.**, 2023. Geographic Artificial Intelligence (GeoAI). Workshop of Innovative Research and Technology, Fuzhou, Jiangxi, China, July 27-28, 2023. (Invited)
- 14) **Huang Q.**, Tang S., Wu M., 2023. Empowering Urban Wildfire Burnt Area Detection with U-Net and Sentinel-2 Imagery. 2023 Spatial Data Science Symposium, Online, Sep 5–6, 2023. (Invited)
- 15) **Huang Q.**, Vongkusolkrit J., Peng B., Wu M., 2023. Weakly Supervised Learning For Near Real-Time Flood Mapping, AAG 2023 Annual Meeting, March 23 –27, 2023, Denver, CO.
- 16) **Guo C., Huang Q.**, 2023. Mining Multimodal Social Media Data for Disaster Management. 2023 AAG Annual Meeting, March 23 –27, 2023, Denver, CO.
- 17) **Wu M., Huang Q.**, 2023. Estimating experienced racial-ethnic segregation based on social media data: A case study in Los Angeles-Long Beach-Anaheim. 2023 AAG Annual Meeting, March 23 – 27, 2023, Denver, CO.
- 18) **Huang Q.**, 2022. Graph Neural Networks for Individual Travel Activity Inference. Digital Twins and GeoAI Symposium, Dec 20, 2022, Beijing, China. (Invited)
- 19) **Huang Q.**, Peng B., Wu M., Vongkusolkrit J., Liu X., Scheele C., 2022. Big data and GeoAI for natural hazard. 2022 American Geophysical Union (AGU) Fall Meeting, Chicago, IL, Dec 12-16, 2022. (Invited)
- 20) **Peng B., Huang Q.**, 2022. Knowledge-Informed Machine Learning for Real-time Flood Mapping with High-Resolution PlanetScope Imagery, 2022 AGU Fall Meeting, Chicago, IL, Dec 12-16, 2022.
- 21) **Wu M., Huang Q.**, 2022. Mixed Land Use Detection via Multi-modal Learning, 2022 AGU Fall Meeting, Chicago, IL, Dec 12-16, 2022.
- 22) **Wu M., Huang Q.**, 2022. “IM2City: Image Geo-localization via Multi-modal Learning,” In The 5th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI’22), Nov 1, 2022, Seattle, WA, USA.
- 23) **Wu M., Qin Y., Huang Q.**, 2022. “People-based Segregation Indices: Measuring Segregation with Individual’s Activity Space and Demographics in U.S. 50 Largest Cities Using Social Media,” 2022 AAG John Odland Spatial Analysis & Modeling Student Paper Competition (Online).
- 24) **Wu M., Huang Q.**, 2022. People-based Segregation Indices: Measuring Segregation with Individual’s Activity Space and Demographics in U.S. 50 Largest Cities Using Social Media, 2022 AAG Annual Meeting, Feb. 25– March 1, 2022 (Online).
- 25) **Peng B., Huang Q.**, 2022. Large-scale Flood Mapping based on Deep Learning, Remote Sensing, and Cloud Computing, 2022 AAG Annual Meeting, Feb. 25– March 1, 2022 (Online).
- 26) **Vongkusolkrit J., Peng B., Huang Q.**, 2022. Physics-Informed Weakly Supervised Learning for Near Real-Time Flood Mapping, AAG 2022 Annual Meeting, Feb. 25 – March 1, 2022 (Online).
- 27) **Wu M., Huang Q.**, 2021. Measuring segregation from human-based perspective: a data-driven revolution of segregation measurement. 2021 Spatial Data Science Symposium, Dec 13-14, 2021 (Online). (Invited)
- 28) **Wu M., Huang Q.**, 2022. Human movement patterns of different racial-ethnic and economic groups in U.S. top 50 cities: What can social media tell us about segregation? The 28th International Conference on GeoInformatics, November 3-5, 2021, Nanchang, Jiangxi, China (Online).

- 29) Peng B, Huang Q, Rao J., 2021. Spatiotemporal Contrastive Representation Learning for Building Damage Classification. 2021 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), July 2021, online.
- 30) Peng B, Huang Q., 2021. Real-time Urban Flood Detection via Self-supervised Learning and Spatial-Temporal-Spectral Data Fusion, University Consortium for Geographic Information Science (UCGIS) Symposium 2021, June 2021 (Online).
- 31) Peng B, Huang Q., 2021. Self-Supervised Post-Disaster Building Damage Classification Informed by Geospatial Principles, American Society for Photogrammetry and Remote Sensing (ASPRS) 2021 Annual Conference, March 2021 (Online).
- 32) Peng B, Huang Q., 2021. Self-supervised Deep Learning for Urban Flood Mapping with Bi-temporal Satellite Imagery, *Student Paper Competition, Hazards, Risks, and Disasters Specialty Group, American Association of Geographers*, Feb 25- Mar 1, 2022 (Online).
- 33) Guo C, and Huang Q., 2021. Investigating Human Mobility during Pandemic: An Integrated Social Media Approach, 2021 AAG Annual Meeting, Feb 25- Mar 1, 2022 (Online).
- 34) Huang Q., 2021. Big data streams and GeoAI for natural hazards. Geography colloquiums, University of North Carolina at Greensboro, Feb. 19, 2021. (Invited)
- 35) Huang Q., 2021. Preparing for Tenure (Panel). Tenure Workshop for Faculty in the Physical Sciences, University of Wisconsin Madison, Jan 14, 2021. (Invited)
- 36) Huang Q., 2020. Preparing your career in STEM fields. Women in Science & Engineering (WISE) Seminar, University of Wisconsin Madison, Oct 6, 2020.
- 37) Huang Q., 2020. Big Data and GeoAI for Natural Hazards. Geography colloquiums, UW Milwaukee, Oct 2, 2020. (Invited)
- 38) Huang Q., 2020. Fusing Multi-sourced Sensing Data and GeoAI for Disaster Management. 2020 AAG Annual Meeting, Denver, Colorado, April 6-10, 2020.
- 39) Huang Q., 2019. Opportunities, Challenges, and Applications of Big Data and GeoAI for Natural Hazards. The First Conference on Smart City between China and Netherlands, Beijing, China, Oct 28, 2020. (Invited)
- 40) Huang Q., 2019. Trajectory Analysis, Mining and Applications. Sun Yat-Sen University, GIS Lecture Series, Oct 7. (Invited)
- 41) Huang Q., 2019. Social Media Data Analytics, Mining, and Applications. Wuhan University, RS Institute Lecture Series, Sep 30, 2020. (Invited).
- 42) Huang Q., 2019. Using Social Media Data for Human Mobility Analysis. Peking University, the RS & GIS Lecture Series, Sep 15, 2020. (Invited).
- 43) Huang Q., 2019. Social Media: A New Data Source for Human Mobility Study. Hong Kong Polytechnic University, the LSIGI Public Lecture Series, Aug 20, 2020. (Invited)
- 44) Huang Q., 2019. Trajectory Mining and Analysis Based on Social Media Data. Shenzhen University, Summer Camp 2019, Aug 1, 2019. (Invited)
- 45) Huang Q., 2019. Semantic Trajectory Mining From Geo-tagged Tweets. The 29th International Cartographic Conference (ICC2019), Tokyo, Japan, July 15–20, 2019.
- 46) Huang Q., 2019. Social Media Data Analytics for Natural Hazards. UW-Madison, Nelson Institute of Environmental Studies, the Climate, People, and Environment Program (CPEP) seminar series, Mar 26. (Invited)
- 47) Huang Q., 2019. Social Media for Real-time Disaster Management. 2019 AAG Annual Meeting, Washington DC, April 3-7, 2019.

- 48) **Huang Q.**, 2019. Panel: Symposium on Human Dynamics Research in the Age of Smart/Intelligent Systems: Social Media Analytics Tool Development. 2019 AAG Annual Meeting, Washington DC, April 3-7, 2019. (Invited)
- 49) **Huang Q.**, 2019. Social Media for Real-time Disaster Management. 2019 AAG Annual Meeting, Washington DC, April 3-7, 2019.
- 50) **Huang Q.**, 2019. Semantic Trajectory Mining From Geo-tagged Tweets. 2019 International Cartographic Conference (ICC2019), Tokyo, Japan, July 15-20, 2019.
- 51) Peng B., Liu X., Meng Z. and **Huang Q.**, 2019. Urban Flood Mapping with Residual Patch Similarity Learning. *The 3rd ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI 2019)*, Nov 5-8, Chicago, IL, USA.
- 52) **Meng Z.**, Peng B., and **Huang Q.** 2019. Flood Depth Estimation from Web Images. The 2nd ACM SIGSPATIAL International Workshop on Advances on Resilient and Intelligent Cities, ACM SIGSPATIAL 2019, Nov 5-8, Chicago, IL, USA.
- 53) **Huang Q.**, 2018. "Social Sensing for Natural Hazards". UW-Madison, Nelson Institute, Environmental Sensing Technologies (EnvSt 971), Nov 9. (Invited)
- 54) **Huang Q.**, 2018. Spatial Text Mining: An Enhanced Text-Mining Framework for Disaster Relevant Social Media Data Classification. 2018 AAG Annual Meeting, New Orleans, LA, April 10-14, 2018.
- 55) **Huang Q.**, 2018. GI Science Education: Advancement in Teaching Spatial Databases. 2018 AAG Annual Meeting, New Orleans, LA, April 10-14, 2018. (Invited)
- 56) **Huang Q.**, Guo C., 2017. Public Sentiment and Movement Patterns during Natural Hazards. 2017 American Geophysical Union (AGU) Fall Meeting, New Orleans, LA, Dec 12-16, 2017.
- 57) **Huang Q.**, 2016. Social Media: An Emerging Data Source for Human Mobility Studies. The Penn State Department of Geography Coffee Hour Colloquium Series. University Park, PA, Feb 29. (Invited)
- 58) **Huang Q.**, Li Z., Li J., **Chang C.**, 2016. Mining Frequent Trajectory Patterns from Online Footprints. 7th International ACM SIGSPATIAL International Workshop on GeoStreaming (IWGS) 2016, ACM SIGSPATIAL 2016, October 31-November 03, Burlingame, CA, USA.
- 59) **Wong D.**, **Huang Q.**, 2016. Variability in Activity Zones Identification in the Modelling of Spatiotemporal Trajectories. International Conf. on Spatial Accuracy Assessment in Environmental Sciences 2016, 5 - 8 July 2016, Montpellier, French.
- 60) **Xu M.**, Hu F., Yu M., Scheele C., Liu K., **Huang Q.**, Yang C., Little M., 2016. Data Container Study for Handling Array-based Data Using Rasdaman, Hive, Spark, and MongoDB. 2016 AGU Fall Meeting, San Francisco, CA, Dec 12-16, 2016.
- 61) **Scheele C.**, **Huang Q.**, 2016. An Enhanced Text-Mining Framework for Extracting Disaster Relevant Data through Social Media and Remote Sensing Data Fusion. 2016 AGU Fall Meeting, San Francisco, CA, Dec 12-16, 2016.
- 62) **Huang Q.**, Scheele C., Yang C., Hu F., Yu M., Liu K., 2015. Rasdaman for Big Spatial Raster Data. 2015 AGU Fall Meeting, San Francisco, CA, Dec 14-18, 2016.
- 63) **Huang Q.**, Cervone, G., Jing, D., Chang, C., 2015. DisasterMapper: A CyberGIS Framework for Disaster Management Using Social Media Data. ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data 2015, November 2015, Seattle, WA, USA.
- 64) **Cervone G.**, Sava, E., **Huang Q.**, 2015. A CyberGIS Framework for the Study of Environmental Hazards, CyberGIS Meeting, September 2015, Reston VA.

- 65) **Huang Q.**, 2015. Mining Spatiotemporal Social Media Data to Predict User's Next Location. The 1st International Workshop on Spatiotemporal Computing, July 13 – 15th, 2015, Fairfax, VA.
- 66) **Chang C.**, Z. Ye, **Huang Q.**, and Wang C. 2015. An Integrative Method for Mapping Urban Land Use Change Using Geo-sensor Data. 1st International ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics, ACM SIGSPATIAL 2015, Nov 1-3, Seattle, WA.
- 67) **Hultquist C.**, Simpson M., Cervone G, **Huang Q.**, 2015. Using Nightlight Remote Sensing Imagery and Twitter Data to Study Power Outages. The 1st ACM SIGSPATIAL International Workshop on the Use of GIS in Emergency Management 2015, ACM SIGSPATIAL 2015, Nov 1-3, Seattle, WA.
- 68) **Huang Q.**, 2015. Mining Tweets for Disaster Preparedness, Response, Impact and Recovery Analysis. 2015 AAG Annual Meeting, April 21–25, 2015, Chicago, Illinois, USA.
- 69) **Huang Q.**, 2015. DisasterTrack: A Geospatial System for Disaster Management Using Social Media. 2015 Geospatial Summit, March 26, 2015, Madison, WI.
- 70) **Huang Q.**, 2014. Cyberinfrastructure for Environmental Studies. *Weston Roundtable Series*, Nelson Institute, Oct 23. (Invited)
- 71) **Li J.**, Zhang T., **Huang Q.**, Liu Q., 2014. A Lightweight Remote Parallel Visualization Platform for Interactive Massive Time-varying Climate Data Analysis. AGU Fall Meeting, Dec 15-19, 2014, San Francisco, CA.
- 72) **Huang Q.**, Cao G., Wang C., 2014. From Where Do Tweets Originate? - A GIS Approach for User Location Inference. The 7th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN '14), ACM SIGSPATIAL 2014, Nov 6-9, Dallas, TX.
- 73) **Huang Q.**, 2014. Accelerating Geocomputation with Cloud Computing. 2014 AAG Annual Meeting, April 8-12, Tampa, Florida.
- 74) **Yu M.**, Yang C., **Huang Q.**, Gui Z., and Xia J., 2013. Utilizing High Spatiotemporal Resolution Soil Moisture for Dust Storm Modeling. In *Agro-Geoinformatics, 2013 Second International Conference on* (pp. 176-181). IEEE.
- 75) **Jiang Y.**, Yang C., **Huang Q.**, Li J., Sun M., 2013. Distributed GPU Computing in GIScience. AGU Fall Meeting, San Francisco, CA, Dec 9-13, 2013.
- 76) **Nebert D.D.**, **Huang Q.**, Yang C., 2013. Cloud Computing For Geosciences--Geocloud for Standardized Geospatial Service Platforms. AGU Fall Meeting, San Francisco, CA, Dec 9-13, 2013.
- 77) **Gui Z.**, Yang C., Xia J., **Huang Q.**, Yu M., 2013. Accelerating Dust Storm Simulation by Balancing Task Allocation in Parallel Computing Environment. 2013 AGU Fall Meeting, San Francisco, CA, Dec 9-13, 2013.
- 78) **Huang Q.**, Yang C., 2013. Using Mapreduce and Cloud Computing to Support Geospatial Processing. 2013 AAG Annual Meeting, Los Angeles, California, April 9-13, 2013.
- 79) **Sun M.**, Li J., Yang C., Schmidt G. A., Bambacus M., Cahalan R., **Huang Q.**, Xu C. and Noble E. U., 2012. A Web-based Geovisual Analytical System for Climate Studies. AGU Fall Meeting, San Francisco, CA, Dec 3-7, 2012.
- 80) **Yang C.**, **Huang Q.**, Xia J., Liu K., Li J., Xu C., Sun M., Bambacus M., Xu Y., Fay D., 2012. Uncover the Cloud for Geospatial Sciences and Applications to Adopt Cloud Computing. AGU Fall Meeting, San Francisco, CA, Dec 3-7, 2012.
- 81) **Li J.**, Jiang Y., Yang C., **Huang Q.**, 2012. Visualizing 3D/4D Environmental Big Data Using Many-core Compute Unified Device Architecture (CUDA) and Multi-core Central Processing Unit (CPUs). MAT4GIS workshop, The 7th GIScience International Conference, Columbus, Ohio, USA, Sept. 18-21, 2012.

- 82) Li J., Jiang Y., Yang C., **Huang Q.**, 2012. Visualizing 3D/4D Environmental Big Data Using Many-core Compute Unified Device Architecture (CUDA) and Multi-core Central Processing Unit (CPUs). AGU Fall Meeting, San Francisco, CA, Dec 3-7, 2012.
- 83) **Huang Q.**, Yang C., Benedict K., 2012. Utilizing Spatial Cloud Computing to Support Dust Storm Simulation. 2012 Annual Meeting, New York, New York, Feb 2012.
- 84) Qu X., Sun M., Xu C., Li J., Liu K., Xia J., **Huang Q.**, Bambacus M., Xu Y., Fay D., Yang C. 2011. A Spatial Web Service Client based on Microsoft Bing Maps. The 19th International Conference on Geoinformatics, June 24-26, 2011, Shanghai, China.
- 85) Yang C., Bambacus M., Freeman SM., **Huang Q.**, Li J., Sun M., Xu C., 2011. A Computing Infrastructure for Supporting Climate Studies. 2011 AGU Fall Meeting, San Francisco, CA, Dec 13-17, 2011.
- 86) **Huang Q.**, Yang C., Benedict K., 2011. Utilizing High Performance Computing and Loosely-Coupled Nested Models to Enable the Computability of Dust Storm Forecasting. 2011 AGU Fall Meeting, San Francisco, CA, Dec 13-17, 2011.
- 87) **Huang Q.**, Yang C., Benedict K., 2011. Utilize Model Interoperability and Cloud Computing to Support Dust Storm Simulation. 2011 Annual Meeting, Seattle, Washington, April 2011.
- 88) **Huang Q.**, Yang C., Nebert D., Liu K., Wu H., 2010. Cloud Computing for Geosciences: Deployment of GEOSS Clearinghouse on Amazon's EC2, Proceedings of the ACM SIGSPATIAL International Workshop on High Performance and Distributed Geographic Information Systems, San Jose, CA, pp.35-38.
- 89) **Huang Q.**, Yang C., Wu. H, Liu K., Li J., 2010. Cloud Computing for Earth Science, July 20-23, 2010, ESIP Federation Meeting, Knoxville, TN. (Workshop Training Session)
- 90) Liu K., Yang C., Wu. H, Li W., Li Z, Miao T., **Huang Q.**, 2010. Metadata in GEOSS Clearinghouse, July 20-23, 2010, ESIP Federation Meeting, Knoxville, TN.
- 91) Yang C., Wu. H, Li W., Liu K., **Huang Q.**, 2010. GEOSS Clearinghouse based on GeoNetwork Open Source, July 20-23, 2010, ESIP Federation Meeting, Knoxville, TN.
- 92) **Huang Q.**, Yang C., Wu. H, Xie J., Li J., Li Z., Sun M., 2010. Cloud Computing for Earth Science – Parallelize and Schedule Spatial Computing for WRF-NMM model. AAG 2010 Annual Meeting, Washington, DC Online Program 14-18 April, 2010-4-15. (Best student presentation, 2nd place).
- 93) Liu K., Yang C., Wu H., **Huang Q.**, 2010. The GEOSS Clearinghouse based on GeoNetwork Opensource. AGU Fall Meeting, San Francisco, CA, 13-17 December.
- 94) **Huang Q.**, Yang C., Xie J., Wu. H, Li J., 2009. Utilizing Model Interoperability and High Performance Computing to Enhance Dust Storm Simulation. AGU 2009 Fall Meeting, San Francisco, CA, Dec 14-18, 2009-12-30.
- 95) **Huang Q.**, Mao S., Jiang Y., Ru B., Li M., Dong P., 2009. Utilizing Particle System to Simulate Airflow of Laneway in Underground Mine Environment. 17th International Conference on Geoinformatics, 2-14, Aug. 2009.
- 96) Li J., Wu. H., Yang C., Xie J., **Huang Q.**, 2009. Using Progressive Transmission Of 3D/4D Geospatial Information over the Internet to Facilitate Geo-Visualization in world wind. 17th International Conference on Geoinformatics, Geoinformatics 2009.
- 97) Zhou Z., Zhou B., Li W., Griglak B., Caiceda C., **Huang Q.**, 2009. Evaluating Query Performance on Object-Relational Spatial Databases. Computer Science and Information Technology, 2009, 2nd IEEE International Conference, pp.489-492, Qingdao, China.

- 98) Li J., Yang, C., Wu, H. **Huang Q.**, Wong D., 2009. Distributed Visualization of Dust Storm in Virtual Globes Virtual Globes. AGU 2009 Fall Meeting, San Francisco, CA, Dec 14-18, 2009.
- 99) Xie J., Yang C., **Huang Q.**, Cao Y., Kafatos M., 2008. Utilizing Grid Computing To Support Near Real-Time Geospatial Applications. IGARSS 2008, Boston, Massachusetts, July 8, 2008.
- 100) Li Z., Yang C., Li W., Li J., **Huang Q.**, Zhou X., 2008. Earth Information Exchange Portlets: sharing the geospatial resources for Earth science and applications in an interoperable fashion. AAG 2008 Annual Meeting, Boston, Massachusetts, April 15-19, 2008.
- 101) Bambacus M., Yang C., Evans J., Li Z., Li W., **Huang Q.**, 2008. Sharing Earth Science Information to Support the Global Earth of Observing System of Systems (GEOSS), International Geoscience and Remote Sensing Symposium (IGARSS).

4.5 CONFERENCES/SESSIONS/WORKSHOPS ORGANIZED

Program Committee

- 1) 2025: Program Committee, the 2nd ACM SIGSPATIAL Workshop on Geospatial Anomaly Detection (GeoAnomalies-25), ACM SIGSPATIAL 2025, 3 Nov - 6 Nov 2025, Minneapolis, MN, USA
- 2) 2025: Program Committee, The 7th International Conference on Big-data Service and Intelligent Computation (BDSIC 2025), October 29–31, 2025, Bangkok, Thailand.
- 3) 2025: Program Committee, The 8th International Conference on Big Data Technologies (ICBDT 2025), October 24–26, 2025, Nanchang, China.
- 4) 2025: Program Committee, GEOProcessing 2025, Nice, France, May 18 - 22, 2025.
- 5) 2024: Program Committee, the 1st ACM SIGSPATIAL Workshop on Geospatial Anomaly Detection (GeoAnomalies-24), ACM SIGSPATIAL 2024, 29 October - 1 November 2024, Atlanta GA USA.
- 6) 2024: Program Committee, The 6th International Conference on Big-data Service and Intelligent Computation (BDSIC 2024), May 29–31, 2024, Hong Kong.
- 7) 2024: Program Committee, The 7th International Conference on Big Data Technologies (ICBDT 2024), September 20–22, 2024, Hangzhou, China.
- 8) 2024: Program Committee, GEOProcessing 2024, Barcelona, Spain, May 26 - 30, 2024.
- 9) 2023: Program Committee, Symposium on Community Resilience Research, AAG Annual Meeting, 2024, Honolulu, HI, April 16-20, 2024.
- 10) 2023: Program Committee, GeoAI and Deep Learning Symposium, AAG Annual Meeting, 2024, Honolulu, HI, April 16-20, 2024.
- 11) 2023: Program Committee, the 5th International Conference on Big-data Service and Intelligent Computation (BDSIC 2023), Oct 20- 22, 2023, Singapore.
- 12) 2023: Program Committee, GEOProcessing 2023, Venice, Italy, June 26 – 30, 2023.
- 13) 2022: Program Committee, GEOProcessing 2022, Porto, Portugal, June 26 – 30, 2022.
- 14) 2022: Program Committee, the 4th International Conference on Big-data Service and Intelligent Computation (BDSIC 2022), Nov 25- 27, 2022, Xiamen, China.
- 15) 2021: Program Committee, the 3rd International Conference on Big-data Service and Intelligent Computation (BDSIC 2021), Nov 19- 21, 2021, Xiamen, China.
- 16) 2021: Program Committee, the 4th ACM SIGSPATIAL Workshop on Advances in Resilient and Intelligent Cities (ARIC) 2020, ACM SIGSPATIAL 2021, Nov 2, Virtual.
- 17) 2021: Program Committee, GEOProcessing 2021, July 18 - 22, Nice, France.

- 18) 2020: Program Committee, the 2nd AI with Geographic Information Systems for Social Good Workshop, the 19th IEEE International Conference on Machine Learning and Applications, Nov 22-25, December 14-17, 2020, Miami, Florida, USA
- 19) 2020: Program Committee, the 19th IEEE International Conference on Machine Learning and Applications, Nov 22-25, December 14-17, 2020, Miami, Florida, USA
- 20) 2020: Program Committee, the 3rd ACM SIGSPATIAL Workshop on Advances in Resilient and Intelligent Cities (ARIC) 2020, ACM SIGSPATIAL 2020, Nov 3- Nov 6, Seattle, Washington, USA
- 21) 2020: Program Committee, the 2nd International Conference on Big-data Service and Intelligent Computation (BDSIC 2020), Dec 3- 5, Xiamen, China
- 22) 2019: Program Committee, Annual meetings of Geoinformatics in Sustainable Ecosystem and Society (GSES) and Geospatial Artificial Intelligence for Urban Computing (GeoAI-UC), Nov 22-25, Guangzhou, Guangdong, China
- 23) 2019: Program Committee, GEOProcessing 2019, Feb 24 - 28, Athens, Greece
- 24) 2020: Program Committee, GEOProcessing 2020, Mar 22 - 26, Barcelona, Spain
- 25) 2018: Program Committee, GIScience 2018, Aug 28-31, Melbourne, Australia
- 26) 2018: Program Committee, GEOProcessing 2018, Mar 25-29, Rome, Italy.
- 27) 2018: Program Committee, Symposium on Artificial Intelligence and Deep Learning in Geography, AAG Annual Meeting, April 10-14, 2018, New Orleans
- 28) 2018: Program Committee, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, April 10-14 2018, New Orleans
- 29) 2017: Program Committee, the ACM SIGSPATIAL workshop on AUTONOMOUSGIS 2017, Nov 7-10, Redondo Beach, CA.
- 30) 2017: Organizing Committee, 2nd International Symposium on Spatiotemporal Computing, NSF STC/ISPRS, Aug 7-9, 2017, Cambridge, MA.
- 31) 2017: Program committee, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, April 5- 9, 2017, Boston, Massachusetts, USA
- 32) 2016: Program committee, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, March 29 - April 2, 2016, San Francisco, CA.
- 33) 2016: Program Committee, the 9th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN '16), ACM SIGSPATIAL 2016, Oct 31- Nov 3, San Francisco, CA.
- 34) 2016: Program Committee, GIScience 2016, Sep 27-30, Montreal, Canada.
- 35) 2015: Program Committee, the 8th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN '15), ACM SIGSPATIAL 2015, Nov 3-6, Seattle, Washington.
- 36) 2015: Organizing Committee, the 1st International Workshop on Spatiotemporal Computing (IWSC), NSF Spatiotemporal Innovation Center (STC)/ISPRS, 2015, Fairfax, VA.
- 37) 2015: Program committee, Symposium on Spatiotemporal Thinking, Computing and Applications, AAG Annual Meeting, March 29 - April 2, 2016, San Francisco, CA.
- 38) 2014: Program Committee, the 7th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN '14), ACM SIGSPATIAL 2014, Nov 6-9, Dallas, TX.

Session Organizer/Chair/Panelist

- 1) 2025: Session Organizer, GeoAI and Deep Learning Symposium: GeoAI for Disaster Resilience, AAG Annual Meeting, San Francisco, California, March 17-21, 2026.

- 2) 2025: Panelist, GIScience Career Mentoring, GIScience 2025, Aug 26-29, Christchurch, New Zealand.
- 3) 2024: Panelist, Community Resilience Research of Past, Current and Future: A Panel Discussion on Challenges, Opportunities, and Lessons Learned, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 4) 2024: Panelist, Digital Twins: A New Paradigm of Digital Transformation to Fill the Last Gap, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 5) 2024: Session Organizer, AAG 2025 Symposium on Spatial AI & Data Science for Sustainability: Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 6) 2024: Session Organizer, AAG 2025 Symposium on Spatial AI & Data Science for Sustainability: Big Data Computing for Geospatial Applications (2 sessions), AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 7) 2024: Session Organizer, Uncertainties in Big Data Analytics in Disaster Research, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 8) 2024: Session Organizer, Geospatial Data Science to Enhance Community Resilience to Urban Environmental Hazards, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 9) 2024: Session Organizer, GeoAI and Deep Learning Symposium: GeoAI for Disaster Resilience, AAG Annual Meeting, Detroit, MI, March 24-28, 2025.
- 10) 2024: Convener/Chair, NH44: Fusion and Application of AI/ML with Remote Sensing, Social Sensing, and/or Physical-process Modeling to Study Hazard (1 evening session, and 1 poster session), American Geophysical Union (AGU) Fall Meeting, DC, Dec 8-13, 2024.
- 11) 2024: Convener/Chair, NH44: Rapid wildfire detection, progression prediction, and impact assessment (2 oral, and 1 poster session), AGU Fall Meeting, DC, Dec 8-13, 2024.
- 12) 2023: Session Organizer, GeoAI and Deep Learning Symposium: AI for Earth Observation, AAG Annual Meeting, Honolulu, HI, April 16-20, 2024.
- 13) 2023: Session Organizer, Symposium on Community Resilience Research: Unleashing the Power of Big Sensor Data for Tackling Natural Hazards, AAG Annual Meeting, Honolulu, HI, April 16-20, 2024.
- 14) 2023: Session Organizer, Big Data Computing for Geospatial Applications, AAG Annual Meeting, Honolulu, HI, April 16-20, 2024.
- 15) 2023: Session Organizer, Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, 2024, Honolulu, HI, April 16-20, 2024.
- 16) 2023: Session Organizer, Uncertainties in Big Data Analytics in Disaster Research, AAG Annual Meeting, 2024, Honolulu, HI, April 16-20, 2024.
- 17) 2023: Convener/Chair, NH44: Applications of AI/ML Using Remote Sensing, Social Sensing, and Model Data to Study Hazard (2 oral sessions, and 1 poster session), American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, Dec 11-15, 2022.
- 18) 2022: Session Organizer, GeoAI and Deep Learning Symposium: GeoAI for Disaster Resilience, AAG Annual Meeting, March 23-27, 2023.
- 19) 2022: Session Organizer, AAG 2023 Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Multimodal Learning with Geospatial Big Data, AAG Annual Meeting, March 23-27, 2023.

- 20) 2022: Session Organizer, Symposium on Human Dynamics Research: Exploring Social Inequality and Segregation with Geospatial Big Data, AAG Annual Meeting, March 23-27, 2023.
- 21) 2022: Session Organizer, Uncertainties in Big Data Analytics in Disaster Research, AAG Annual Meeting, March 23-27, 2023.
- 22) 2022: Session Organizer, AAG 2023 Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Social Sensing and Big Data Computing for Disaster Management, AAG Annual Meeting, March 23-27, 2023.
- 23) 2022: Session Organizer, AAG 2023 Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Big Data Computing for Geospatial Applications, AAG Annual Meeting, March 23-27, 2023.
- 24) 2022: Convener, NH44: Applications of AI/ML Using Remote Sensing, Social Sensing, and Model Data to Study Hazard (1 oral session, 2 poster sessions), AGU Fall Meeting, Chicago, IL, Dec 12-16, 2022.
- 25) 2022: Theme Coordinator/Session Organizer/Chair, IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2022, Kuala Lumpur, Malaysia, July 17 – 22, 2022.
- 26) 2021: Session Organizer, Examining Social Connection and Segregation by Leveraging Emerging Mobility Data, Spatial Data Science Symposium 2021, Dec 13 – 14, 2022.
- 27) 2021: Organizer, Geospatial Artificial Intelligence for Natural Hazards, 2021 AAG Annual Meeting, Feb 25 - March 1, 2022.
- 28) 2021: Organizer, Social Media Big Data and Uncertainties in Disaster Research, 2021 AAG Annual Meeting, Feb 25 - March 1, 2022.
- 29) 2021: Theme Coordinator/Session Organizer, IGARSS 2021.
- 30) 2020: Theme Coordinator / Session Organizer, IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2020.
- 31) 2020: Organizer, Social Media Big Data and Uncertainties in Disaster Research, AAG Annual Meeting, Denver, Colorado., April 6-10, 2020 (cancelled due to the pandemic)
- 32) 2020: Organizer, Symposium on Artificial Intelligence and Deep Learning in Geography: Big Data and GeoAI for Natural Hazards, AAG Annual Meeting, Denver, Colorado., 2020 (cancelled due to the pandemic)
- 33) 2019: Chair and Organizer, GeoAI and Deep Learning Symposium: Big data and GeoAI for Natural Hazards, 2019 AAG Annual Meeting, Washington, DC.
- 34) 2019: Organizer, Symposium on Frontiers in Geospatial Data Science: Big Data Computing for Geospatial Applications, 2019 AAG Annual Meeting, Washington, DC.
- 35) 2019: Organizer, Technologies and applications of Web-based GIS, 2019 AAG Annual Meeting, Washington, DC.
- 36) 2019: Organizer, Social Sensing and Big Data Computing for Disaster Management (Panel Session), 2019 AAG Annual Meeting, Washington, DC.
- 37) 2018: Chair and Organizer, Artificial Intelligence and Deep Learning Symposium: Big Data Streams and Mining for Natural Hazards, 2018 AAG Annual Meeting, New Orleans, LA.
- 38) 2018: Chair and Organizer, Spatiotemporal Symposium: Social Sensing and Big Data Computing for Disaster Management (Panel Session), 2018 AAG Annual Meeting, New Orleans, LA.
- 39) 2018: Organizer, Spatiotemporal Symposium: Big Data Computing for Geospatial Applications, 2018 AAG Annual Meeting, New Orleans, LA.

- 40) 2018: Panelist, GI Science Education: Advancements in Teaching Spatial Databases, 2018 AAG Annual Meeting, New Orleans, LA.
- 41) 2017: Chair and Organizer, Big Data Streams and Mining for Natural Hazards. 2017 AAG Annual Meeting, April 5-9, 2017, Boston, Massachusetts, USA.
- 42) 2016: Convener, NH002: Challenges and opportunities associated with the use of novel data streams during natural hazards and emergencies, AGU Fall Meeting, Dec 12-16, 2016, San Francisco, CA.
- 43) 2016: Chair and Organizer, New Data Sources, Technologies, and Tools for Disaster Management, 2016 AAG annual meeting, March 29 – April 2, 2016, San Francisco, CA.
- 44) 2016: Chair and Organizer, High-performance and Large-scale GeoComputing, March 29 – April 2, 2016, San Francisco, CA.
- 45) 2016: Organizer, Spatial Data Mining and Big Data Analytics, March 29 – April 2, 2016, San Francisco, CA.
- 46) 2015: Chair and Organizer, Social Media for Crisis Management, 2015 AAG Annual Meeting, April 21 – 25, 2015, Chicago, Illinois, USA.
- 47) 2015: Organizer, CISG Robert Raskin Student Competition Panel Session, AAG annual meeting, April 21 – 25, 2015, Chicago, Illinois, USA.
- 48) 2014: Chair, High-performance and Large-scale Geospatial Computing I: Architectures and Frameworks, 2014 AAG Annual Meeting, Tampa, FL.
- 49) 2014: Chair and Organizer, Symposium on Synergistic Advances of CyberGIS and Geography: Cloud Computing for GIScience, 2014 AAG Annual Meeting, Tampa, FL.
- 50) 2014: Chair and Organizer, CISG Robert Raskin Student Competition Panel Session, AAG annual meeting, 2014 AAG Annual Meeting, Tampa, FL.
- 51) 2013: Chair and Organizer, Spatiotemporal Thinking, Computing and Applications (STCA) Session 6: Cloud Computing, 2013 AAG Annual Meeting, Los Angeles, CA.
- 52) 2013: Organizer, Spatiotemporal Thinking, Computing and Applications 12: Cyberinfrastructure Applications, 2013 AAG Annual Meeting, Los Angeles, CA.
- 53) 2013: Chair and Organizer, Computational Geography, High-performance and Large-scale Geospatial Computing, 2013 AAG Annual Meeting, Los Angeles, CA.
- 54) 2012: Chair and Organizer, Cloud Computing for Geographers, 2012 AAG Annual Meeting, New York, NY.
- 55) 2012: Organizer, Computational Geography, 2012 AAG Annual Meeting, New York, NY.
- 56) 2012: Organizer, Spatiotemporal Thinking and Computing III---Computing and Software, 2012 AAG Annual Meeting, New York, NY.
- 57) 2011: Organizer, Spatial Cloud Computing, 2011 ESIP Winter Meeting, Washington D.C.
- 58) 2011: Organizer, Computational Geography, 2011 AAG Annual Meeting, Seattle, WA.
- 59) 2010: Chair, Spatial Cloud Computing, 2010 ESIP Summer Meeting, Knoxville, TN.
- 60) 2010: Organizer, High Performance Computing for Geographic Sciences, 2010 AAG Annual Meeting, Washington, DC.

4.6 MANUSCRIPT REVIEWS

Advances in Water Resources, Annals of the American Association of Geographers, Big Earth Data, Computer & Geosciences, Computers, Environment and Urban Systems (CEUS), Computing in Science

and Engineering, Discrete Dynamics in Nature and Society, EPJ Data Science, Geoinformatica, Geoscience Frontiers, Geoscientific Model Development, Geo-spatial Information Science, IEEE Access, International Society for Photogrammetry and Remote Sensing, International Journal of Applied Earth Observation and Geoinformation, International Journal of Digital Earth, International Journal of Disaster Risk Reduction, International Journal of Geographical Information Science (IJGIS), ISPRS International Journal of Geo-Information (IJGI), Journal of Decision Sciences, Journal of King Saud University - Computer and Information Sciences, Journal of Remote Sensing, PLOS ONE, Scientific Reports, Software Practice and Experience, Sustainable Cities and Society, Professional Geographer, scientific World Journal, Transactions in GIS, Transactions on Computers, Transactions on Spatial Algorithms and Systems, Urban Studies, GIS for Atmospheric Sciences (book review)

4.7 MEMBERSHIPS

- 2007 - Present: Member, American Association of Geographers
- 2007 - Present: Member, Earth Science Information Partners
- 2007 - Present: Member, University Consortium for Geographic Information Science
- 2008 - Present: Member, American Geophysical Union (AGU)
- 2010 - Present: Member, Association for Computing Machinery (ACM)
- 2019 - Present: Member, IEEE Geoscience and Remote Sensing Society (GRSS-IEEE)