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Updated on June 27, 2023

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EDUCATION

Ph.D. Department of Geography, University of South Carolina, Columbia, South Carolina, USA.

M.S. School of City Planning & Architecture, Georgia Institute of Technology, Atlanta, Georgia, USA.

B.S. School of Remote Sensing and Information Engineering, Wuhan University, Wuhan, Hubei Province, China.

ACADEMIC APPOINTMENT

2020 Assistant Professor, Department of Environmental Sciences, Emory University, Atlanta, Georgia, USA

2020-2023 Assistant Professor, Department of Geosciences, University of Arkansas, Fayetteville, Arkansas, USA

2016-2020 Research and Teaching Assistant, Department of Geography, University of South Carolina, Columbia, South Carolina, USA.

RESEARCH INTERESTS

Geospatial analysis

Big data analytics

Social vulnerability

Spatial and social data mining

Remote sensing information engineering

GeoAI and deep learning

PUBLICATIONS

Refereed Journal Articles (published: #134, under review: #58)

Submitted Lu, K., Huang, X., Xia, R., Zhang, P., & Shen, J. Cross attention is all you need: relational remote sensing change detection with Transformer (Under Review).

Yan, J., Huang, X., Wang, S., He, Y., Li, X., Hohl, A., Li, X., Aly, M., & Lin, B. Toward a comprehensive understanding of eye-level urban greenness: A systematic review (Under Review).

Chukwu, M., Huang, X., Wang, S., Shaw, J., Li, X., & Wei, H. Urban park accessibility assessment using human mobility data: A systematic review (Under Review).

Chukwu, M, Huang, X, Wang, S., Yang, D., & Ye, X. Toward an Emerging Geo-Data Social Media and Voluntary Geographic Information for Terrorism-Related Disasters Preparedness and Mitigation in Sub-Saharan Africa: Perspectives and Challenges (Under Review).

Lu, J., Huang, X., Xiao, X., Li, Z., Kupfer, J., Wei, H., Wang, S., & Zhu, L. Spatial, temporal, and social dynamics in visitation to US national parks before and during the COVID-19 pandemic: A big data approach (Under Review).

Lu, K., Huang, X., Chen, Z., Chen, P., Pan, J., & Zhang, B. Change detection for high resolution imagery: cross attention is all you need (Under Review)

Zhao, Y., Huang, X., & Zhu, X. Travel Behavior Resilience During the COVID-19: Evidence from 30 Metropolitans in the United States (Under Review).

Ran, X., Cheng, X., & Huang, X. Activity based food environment index better predicts neighborhood cardio metabolic health than location based food environment index (Under Review).

Gu, Y., Shao, Z., Huang, X., Cai, B., & Dang, C. Assessment of land use stress from the perspective of carbon emissions: A case study of the middle reaches of Yangtze River urban agglomeration (Under Review).

Zhuang, Q., Shao, Z., Huang, X., Yan, Y., Dang, C., Swaminathan, R., & Altan, O. Multi-source satellite data reveals that Russia-Ukraine conflict is destroying Ukraine's food production (Under Review).

Huang, H., Shao, Z., Huang, X., Cheng, Q., Wu, X., Li, G., Tan, L., Zhou, X., Cheng, G., Wang, Y., & Zuo, X. SANet: Scale-adaptive network for remote sensing image captioning (Under Review).

Cai, B., Shao, Z., Huang, X., Haberl, H., Zhou, X., & Fang, S. Fine-scale mapping of building height using Sentinel-1 and Sentinel-2 imagery (Under Review).

Yan, J., Naghedi, R., Huang, X., Wang, S., Lu, J., & Xu, Y. Assessing simulated visible greenness in urban environments (Under Review).

Ding, Q., Shao, Z., Huang, X., Feng, X., Altan, O., & Hu, B. Semi-LCD: A consistency-guided lightweight semi-supervised change detection method for high-resolution remote sensing images (Under Review)

Wang, J., Zhou, Q., Huang, X., Zhang, R., Chen, X., & Lu, T. Pan-sharpening via intrinsic decomposition distillation (Under Review).

Lv, X., Persello, C., Shao, Z., Huang, X., Ming, D., & Stein, A. DeepMerge: Deep Learning-Based Region-Merging for Image Segmentation (Under Review).

Dang, C., Shao, Z., Huang, X., Cheng, G., Zhang, S., Xiong, W., Qian, J., Zhuang, Q., Wang, J., Ding, Q., Cai, B., Zhang, T., Xu, X., Cheng, J., & Lyu, C. PEE: A novel method to extract land surface vegetation phenology (Under Review).

Sun, Y., Chen, J., & Huang, X. Multi-level Perceptual Network for Building Extraction from High-Resolution Remote Sensing Images (Under Review).

Dang, C., Shao, Z., Huang, X., Zhuang, Q., Cheng, G., Cai, B., Qian, J., & Chen, J. Comparison of the differences between vegetation greenness phenology and photosynthetic phenology (Under Review).

Dang, C., Shao, Z., Huang, X., Zhuang, Q., Cheng, G., & Qian, J. Global ecosystem vegetation production increased in response to COVID-19 restrictions (Under Review).

Wang, S., Noland, R. B., Huang, X. (2021). Does ridersourcing provide equal accessibility? (Under Review).

Wang, J., Lu, T., Huang, X., Zhang, R., & Feng, X. Pan-sharpening via conditional invertible neural network (Under Review).

Cheng, X., Li, Z., & Huang, X. An information-theoretic approach for evaluating lossless compression techniques applied to remotely sensed images (Under Review).

Dang, C., Shao, Z., Huang, X., Cheng, G., & Qian, J. Urbanization advances spring phenology but high urbanization delays spring phenology (Under Review).

Kafym, A., Faisal, A., Huang, X., Rakib, A., Jahir, D., Rahaman, Z., Fattah, A., & Rahman, M. Assessing land use/land cover indices for environmental management using remote sensing techniques (Under Review).

Dang, C., Shao, Z., Huang, X., Qian, J., Cheng, G., Zhang, S., Xiong, W., & Fan, Y. A new distance-based phenology extraction (DBPE) method using solar chlorophyll fluorescence (Under Review).

Zhuang, Q., Shao, Z., Li, D., Huang, X., Cai, B., Zhang, Y., Xu, X., Cheng, T., Ding, Q., Dang, C., Feng, X., Liang, W., Chen, J., Altan, O., Wu, S., & Feng, X. Global impervious surface area expansion weakens the growth rate of vegetation carbon sequestration capacity (Under Review).

Zhang, J., Shao, Z., Ding, Q., Huang, X., Wang, Y., Zhou, X., & Li, D. AERNet: An attention-guided edge refinement network for building change detection in high-resolution remote sensing images (Under Review).

Waqasa, H., Munir, I., Khan, F., & Huang, X. An integrated approach for 3D solar potential assessment at the city scale (Under Review).

Dai, S., Zhao, W., Wang, Y., Huang, X., Chen, Z., Lei, J., Jia, P., & Stein, A. Accessing spatiotemporal bike-sharing friendliness using muli-source Earth observation data: A case study of Xiamen, China (Under Review).

Wang, Y., Shao, Z., Lu, T., Huang, X., Wang, J., Chen, X., Huang, H., & Zuo, X. Remote sensing super-resolution via multi-scale texture transfer network (Under Review).

Wu, L., He, Q., Zhu, C., Huang, X., & Ye, X. Direction-Specific Human Mobility Improves Crime Modelling: Evidence from Houston (Under Review).

Ning, X., Zhang, H., Zhang, R., & Huang, X. Multi-stage progressive change detection on high-resolution remote sensing imagery (Under Review).

Liu, Z., Liu, J., Chen, P., Wang, M., Huang, X., & Yang, L. Effects of calendar events on the relationship between built environment and metro ridership: a big data analysis in Shenzhen, China (Under Review)

Ding, Q., Shao, Z., Huang, X., Altan, O., Deng, X. A novel transfer learning based convolutional neural network for unsupervised change detection in multispectural images (Under Review).

Cheng, X., Hu, E., <u>Huang, X.</u>, Hu, D., & Zhu, A. Integrating structural description of data format information into programming to auto-generate reading programs for geographical data files (Under Review).

Lu, J., Xiao, X., <u>Huang, X.</u>, Chuai, X., Li, Z., Budruk, M., Wei, H., & Wang, S. The COVID-19 pandemic altered behaviors to access urban parks and exacerbated related social inequality in the United States (Under Review).

Wu, X., Deng, X., & <u>Huang, X.</u> Analysis of urban spatial structure in western Guangdong based on point of interest big data (Under Review).

Deng, Y., Shao, Z., Dang, C., <u>Huang, X.</u>, & Zhuang, Q. Policy impact on the dynamics of land cover and ecosystem services in Poyang Lake, China (Under Review).

Li, D., Peng, H., Xu, X., <u>Huang, X.</u>, Liu, J., & Shao, Z. Prospects on information retrieval based on remote sensing image sharing ontology (Under Review).

Zhuang, Q., Shao, Z., Kong, L., <u>Huang, X.</u>, Li, Y., Yan, Y., Wu, S. Assessing the effects of agricultural management practices and land use changes on soil organic carbon stocks (Under Review).

Shao, Z., Wang, J., Deng, L., <u>Huang, X.</u>, Lu, T., Luo, F., Zhang, R., Lv, X., Ding, Q, and Wang, Z. GLSD: The Global Large-Scale Ship Database and Baseline Evaluations (Under Review).

Ren, M., Park, S., Xu, Yang, & Huang, X. Heterogeneous effects of COVID-19 and policy responses on consumer spending in a tourism city (Under Review).

Cai, B., Shao, Z., Fang, S., <u>Huang, X</u>. Tang, Y & Zhuang, Q. Spatiotemporal analysis of human-earth relationship coordination involved in urban-rural transition (Under Review).

Deng, Y., Shao, Z., Dang, C., <u>Huang, X.</u>, Wu, W., Ding, Q., & Zhuang, Q. Assessing urban wetland dynamics in Wuhan and Nanchang, China (Under Review).

Wang, X., Li, D., <u>Huang, X.</u> & Shao, Z. A systematic review on remote sensing of urban heat island (Under Review).

Shao, Z., Pan, W., <u>Huang, X.</u>, Li, Y. & Peng, S. Video stabilization for improved video anomaly detection (Under Review).

Feng, X., Shao, Z., & <u>Huang, X.</u> Refined impervious surface extraction via fused hyperspectral multispectral images (Under Review).

Wang, J., Shao, Z., <u>Huang, X.</u>, et al. NSN: Deep Non-local Self-regression Networks for Satellite Image Super-resolution (Under Review).

Shao, Z., Liu, L., <u>Huang, X.</u>, Altan, O. & Javed, A. Urban Impervious Surface Monitoring from Time-series of High-Resolution Remote Sensing Images with Time-invariant Spectral Features (Under Review).

Xin, Y., Kang, Y., Li, L., <u>Huang, X.</u>, & Gao, S. Quantifying County-level Inequity on Spatial Accessibility to Public Health Resources in the United States (Under Review).

Shao, Z., Zhou, X., Xie, X., <u>Huang, X.</u>, & Huang, H. WodNet: Weak object discrimination network for cloud detection (Under Review).

Chukwu, M., Oloruntimilehin, I., & <u>Huang, X</u>. Flood risk evaluation in Ethiope local government area, Nigeria using AHP-based model and GIS technique (Under Review).

Wang, Y., Shao, Z., Lu, T., Huang, X., & Wang, J. A lightweight distillation CNN-Transformer Architecture for remote sensing image super-resolution (Under Review).

Li, M., Li, X., Wu, D., Zou, L., & Huang, X. Digitizing and inventorying traffic control infrastructures: a review of practices (Under Review).

Li, H., Jia, M., Li, X., Wang, Z., & Huang, X. Quantification of changes in ecosystem service in Liaoning Province, China as a result of climate variability and land cover change (Under Review).

Cheng, Q., Li, H., Yang, Y., Ling, J., & Huang, X. Bayonet-drivers dataset and DGMB-Net for semi-supervised risky driving behavior detection (Under Review).

Cheng, Q., Ling, J., Yang, Y., Li, H., Zhou, W., & Huang, X. InstLane Dataset and Geometry-Aware Network for Lane Line Detection (Under Review).

2023   Huang, X., Yang, D., He, Y., Nelson, P., Low, R., McBride, S., Mitchell, J., & Guarraia, M. Land cover mapping via crowdsourced multi-directional views: More directional views, the better. *International Journal of Applied Earth Observation and Geoinformation. doi:* 10.1016/j.jag.2023.103382.

Wang, S., Huang, X., Hu, T., She, B., Zhang, M., Wang, R., ... & Bao, S. (2023). A global portrait of expressed mental health signals towards COVID-19 in social media space. *International Journal of Applied Earth Observation and Geoinformation*, 116, 103160.

Wang, S., Huang, X., She, B., & Li, Z. (2023). Diverged landscape of restaurant recovery from the COVID-19 pandemic in the United States. *iScience*. doi: 10.1016/j.isci.2023.106811.

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Wang, S., Wang, R., Huang, X., Li, Z., & Hu, Y. (2023). A GIS-based analytical framework for evaluating the effect of COVID-19 on the restaurant industry with big data. *Big Earth Data*. doi: 10.1080/20964471.2022.2163130.

Wang, S., Sun, Q., Huang, X., Tao, Y., Dong, C., Das, S., & Liu, Y. Health-integrated heat risk assessment in Australian cities. *Environmental Impact Assessment Review*. doi: 10.1016/j.eiar.2023.107176.

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Chen, J., Shao, Z., Huang, X., Cai, B., & Zhen, X. Assessing the impact of floods on vegetation worldwide from a spatiotemporal perspective. *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2023.129715.

Wang, S., Ning, H., Huang, X., Xiao, Y., Zhang, M., Yang, E. F., ... & Zeng, Y. (2023). Public Surveillance of Social Media for Suicide Using Advanced Deep Learning Models in Japan: Time Series Study From 2012 to 2022. *Journal of Medical Internet Resear*ch, 25, e47225.

Dang, C., Shao, Z., Huang, X., Zhuang, Q., Cheng, G., & Qian, J. Climate warming-induced phenology changes dominate vegetation productivity in Northern Hemisphere ecosystems, *Ecological Indicators*. doi: 10.1016/j.ecolind.2023.110326.

Yao, Y., Guo, Z., <u>Huang, X.,</u> Ren, S., Hu, Y., Dong, A., & Guan, Q. (2023). Gauging urban resilience in the United States during the COVID-19 pandemic via social network analysis. *Cities*, 104361. doi: 10.1016/j.cities.2023.104361.

Dang, C., Shao, Z., <u>Huang, X.,</u> Zhuang, Q., Cheng, G., & Qian, J. Vegetation greenness and photosynthetic phenology in response to climate determinants. *Frontiers in Forests and Global Change*. doi: 10.3389/ffgc.2023.1172220

Yan, Q., Zhao, W., <u>Huang, X.,</u> & Lyu, X. Automated delineation of smallholder farm fields using fully convolutional networks and generative adversarial networks. *Journal of Geodesy and Geoinformation Science*. doi: 10.11947/j.JGGS.2022.0402.

He, Y., Seminara, P.J., <u>Huang, X.,</u> Yang, D., Fang, F., & Song, C. (2023). Geospatial Modeling of Health, Socioeconomic, Demographic, and Environmental Factors with COVID-19 Incidence Rate in Arkansas, US. *International Journal of Geo-Information*. doi: 10.3390/ijgi12020045.

Jin, A., Chen, X., <u>Huang, X.,</u> Li, Z., Caspi, C. E., & Xu, R. (2023). Selective Daily Mobility Bias in the Community Food Environment: Case Study of Greater Hartford, Connecticut. *Nutrients*, 15(2), 404.

Chen, J., Yu, Z., Li, M., & <u>Huang, X</u>. Assessing the Spatiotemporal Dynamics of Vegetation Coverage in Urban Built-up Areas. (2023). *Land*. doi: 10.3390/land12010235.

Lv, X., Persello, C., Zhao, W., <u>Huang, X.,</u> Hu, Z., Ming, D., & Stein, A. Pruning for image segmentation: Improving computational efficiency for large-scale remote sensing applications. *ISPRS Journal of Photogrammetry and Remote Sensing*. doi: 10.1016/j.isprsjprs.2023.05.024

Zhang, R., Zhang, H., Ning, X., <u>Huang, X.,</u> Wang, J., & Cui, W. (2023). Global-aware siamese network for change detection on remote sensing images. *ISPRS Journal of Photogrammetry and Remote Sensing*. doi:10.1016/j.isprsjprs.2023.04.001.

Chen, J., Shao, Z., Deng, X., & <u>Huang, X.,</u> & Dang, C. Vegetation as the catalyst for water circulation on global terrestrial ecosystem. *Science of The Total Environment*. doi: 10.1016/j.scitotenv.2023.165071.

He, Y., Connolly, M. H., Xu, R., <u>Huang, X.,</u> Wang, Z., Arreguin, M. F., & Rhodes, C. (2023). Impacts of irrigation-climate interactions on irrigated soybean yields in the US Arkansas Delta from 2003 to 2017. *Progress in Physical Geography: Earth and Environment*, 03091333231169443.

Gao, G., Ye, X., Li, S., <u>Huang, X.,</u> Ning, H., Retchless, D., & Li, Z. (2023). Exploring flood mitigation governance by estimating first-floor elevation via deep learning and google street view in coastal Texas. *Environment and Planning B: Urban Analytics and City Science*, 23998083231175681.

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Wang, S., Cai, W., Tao, Y., Sun, Q., Wong, P., <u>Huang, X.,</u> Liu, Y. (2023). Unpacking the inter- and intra-urban differences of the association between health and exposure to heat and air quality in Australia using global and local machine learning models. *Science of the Total Environment*. doi: 10.1016/j.scitotenv.2023.162005.

Wang, S., Cai, W., Tao, Y., Sun, Q. C., Wong, P. P. Y., Thongking, W., & <u>Huang, X</u>. (2023). Nexus of heat-vulnerable chronic diseases and heatwave mediated through tri-

environmental interactions: A nationwide fine-grained study in Australia. *Journal of Environmental Management*, 325, 116663.

2022   Huang, X., Xu, Y., Liu, R., Wang, S., Wang, S., Zhang, M., Kang, Y., Gao, S., Zhao, B., Li, Z. (2022). Exploring home-dwelling time patterns during the COVID-19 pandemic via Bayesian inference: policy compliance, spatial disparity, and exposed inequity. *Transactions in GIS*. doi: 10.1111/TGIS.12918.

Huang, X., Hu, T., Wang, S., Hohl, A., Li, Z., Ye, X., Zhang, M., & Bao, S. (2022). Social media mining under the COVID-19 context: current progress, available sources, challenges, and our paths forward, *International Journal of Applied Earth Observations and Geoinformation*. doi: 10.1016/j.jag.2022.102967.

Huang, X., Zhao, Y., Wang, S., Li, X., Yang, D., Feng, Y., Zhu, L., & Chen, B. (2022). Unfolding community homophily in US metropolitans via human mobility. *Cities*, 129, 103929.

Huang, X., Martin, Y., Wang, S., Zhang, M., Ge, Y., & Li, Z. (2022). The promise of excess mobility analysis: measuring episodic-mobility with geotagged social media data. *Cartography and Geographic Information Science*. doi: 10.1080/15230406.2021.2023366.

Huang, X., Bao, X., Li, Z., Zhang, S., & Zhao, B. (2022). Black businesses matter: A longitudinal study of black-owned restaurants in the COVID-19 pandemic using geospatial big data. *Annals of the American Association of Geographers*, doi: 10.1080/24694452.2022.2095971

Orire, A. M., Huang, X., Oloyede, O. I., Ayo, B., Raheem, W. A., & Chukwu, M. (2022). Spatio-temporal change detection of built-up areas in ilorin metropolis and implications for green space conservation. *Papers in Applied Geography*. doi: 10.1080/23754931.2022.2062574.

Wu, W., Huang, X., Shao, Z., Teng, J., Li, D. (2022). SAR-DRDNet: A SAR Image Despeckling Network with Detail Recovery. *Neurocomputing*, doi: 10.1016/j.neucom.2022.04.066.

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Wang, S., Huang, X. [†], Hu, T., Corcoran, J., Zhang, M., Li, Z., Ning, H, Khan, A., & Liu, Y[†] (2022). The times they are changing: tracking the shifts in mental health signals in Australia before, during and post the COVID-19 pandemic. *BMJ Global Health*. doi: 10.1136/bmjgh-2021-007081.

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Edited Books (#1)

2023   Kalogeropoulos, K., Tsatsaris, A., Antoniou, V., & Huang, X. Book name: Unveiling the New Era of Geoinformatics—Harnessing AI, Earth Big Data, and VGI for Global Transformation, ELSEVIER (In Process).

Book Chapters (#6)

2023   Hu, T., Huang, X., & Wang, S. Actionable environment science through social media platforms. In *Actionable Science for Global Environmental Change* (Under Review).

Huang, X., Li, X., Yang, D., & Zou, L. Crowdsourced geospatial data in human and Earth Observations: Challenges and opportunities. In *GeoInformatics for Geosciences Advanced Geospatial Analysis using RS, GIS & Soft Computing,* doi: 10.1016/B978-0-323-98983-1.00007-7.

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Other Publications (#3)

2020   Huang, X.[†] (2020). Remote Sensing and Social Sensing for Improved Flood Awareness and Exposure Analysis in the Big Data Era. (Doctoral dissertation). Retrieved from https://scholarcommons.sc.edu/etd/585.

2019   Huang, X.[†] (2019). The fusion of remote sensing and social sensing in rapid flood mapping: motivation, opportunities and challenges, U.S. National Report (U.S. National Committee for the International Cartographic Association): https://cartogis.org/usnc-ica/us-national-report/.

2017   Huang, X.[†] (2017). A Future Energy Harvesting Scenario for Georgia Tech Campus Using Photovoltaic Solar Panels and Piezoelectric Materials. MS-GIST Capstone Paper, Georgia Institute of Technology.

AWARDS, GRANTS, AND SCHOLARSHIPS

External Grants

Pending

NSF Macrosystems Biology and NEON-Enabled Science (MSB-NES). Co-PI (with PI Kusum Naithani and Co-PI Caleb Roberts). Project: *A Macrosystems-oriented Approach for Investigating the Drivers of Multitropic Biodiversity in Forested Ecosystems* ($300,000).

National Academies—Gulf Research Program—Understanding the Effects of Climate Change on Environmental Hazards in Overburdened Communities. Co-PI (with PI Betsy Garrison, Co-PIs Ashlea Milburn, Charleen McNeil, Betsy Garrison, and Rob Rohli). Project: *Advancing Community Resilience for Long-term Recovery in Coastal Louisiana by Constructing more Inclusive Models ($1,500,000).*

National Academies—Gulf Research Program—Understanding the Effects of Climate Change on Environmental Hazards in Overburdened Communities. Co-PI (with PI Xinyue Ye, Co-PIs Omar Nofal, Huanping Huang, and Ayodeji Iyanda). Project: *Building Geospatial Cyberinfrastructure to Quantify Hurricane-Related Health Risks in Overburdened Gulf Coast Communities ($1,500,000).*

Amazon Research Award (ARA). Co-PI (with PI Di Yang and Co-PI Yaqian He). Project: *From Roadkill to Ecosystem Sustainability: Crowdsourcing Pathway from Citizen Science Images to Predict Roadkill Hotspots, Drivers, and Inform Actions* ($78,929 + $20,000 AWS credits).

NSF Humans, Disasters, and the Built Environment (HDBE). Co-PI (with PI Rui Liu, Co-PIs Shigang Chen, Yixin Wei, Jeffery Lindsey). Project: *Improving Evacuation Situation Awareness and Decision Making: A Smart eVacuation Emergency Real-time System (SAVER)* ($450,000).

U.S. Department of Transportation (DOT) University Transportation Centers (UTC). Co-PI (PI Xing Wu; Co-PIs Qianwen Guo, Xinyue Ye, and Yueqing Li) Center for Transportation Infrastructure Resilience and Sustainability (CTIRS) ($2,000,000).

2022   NSF Technology, Innovation and Partnerships, Innovation Corps—National Innovation Network Teams Program (I-CorpsTM Teams). Technical Lead (with Entrepreneurial Lead Reza Naghedi and Industry Mentor Juan Acosta). Grant #2308692. Project: *Scalable Artificial Intelligence-Supported Flood Resilience Assessment* ($50,000).

Centers for Medicare and Medicaid Services (CMS) Minority Research Grant Program (MRGP). Co-PI (with PI Ayodeji Iyanda, Co-PIs Xinyue Ye, Temilola Salami, and Dongying Li). Grant #1W1CMS331887-01-00. Project: *Investigating the combined impact of spatial social networks and environmental exposure on minority youths' mental health in the context of COVID-19 ($333,020).*

NSF Data Analytics that are Robust and Trusted (DART) Seed Grant. Sponsor: NSF and Arkansas Economic Development Commission. Sole-PI. Grant#23-EPS4-0031. Project: *CI: AI-supported Cyberinfrastructure for Scalable Flood Resilience Assessment ($96,000)*

2021   NASA SMD Computational and Information Sciences and Technology Office. Co-PI (with PI Di Yang). Grant #80NSSC21M0177. Project: *Assessing and Qualifying Citizen Science Labeling for Training Data for GLOBE Observer Mosquito and Land Cover Protocols Improving Data Quality within the GLOBE Observer Community ($93,824).*

NASA EPSCoE Research Infrastructure Development (RID). Co-PI (with PI Yaqian He and Co-PI Matthew Connolly). Grant #80NSSC19M0066. Project*: Quantifying impacts of irrigation and the consequent climate variability on crop yield in North Arkansas. ($40,000).*

2019   Travel Grant, Japan Local Organizing Committee to the International Cartographic Association, for the participation in the bi-annual International Cartographic Conference (ICC 2019). (¥100,000)

Travel Grant, U.S National Committee (USNC) to the International Cartographic Association, for the participation in the bi-annual International Cartographic Conference (ICC 2019). ($2000)

Internal Grants

2022   2023 Summer Research Stipends, Office of Diversity & Inclusion, University of Arkansas. PI. Project: *AI-supported Construction of Residential Rooftop Solar Deployment Database in EPSCoR Jurisdictions ($5,000).*

2019   The SPARC Graduate Research Grant, sponsored by the Office of the Vice President for Research, University of South Carolina. Co-PI. Funded project: *A Deep Learning Supported Flood Mapping Framework that Integrates Remote Sensing and Social Sensing*. ($5000)

Teaching Resource Development Grant, Center for Teaching Excellence, University of South Carolina. ($750)

Not funded

2022   NSF Biodiversity on a Changing Planet (BoCP). Co-PI (with PI Di Yang). Project: *BoCP-Design: US-China: Linking Organisms, Mechanisms and Processes for Supporting Standardized Biodiversity Monitoring During Alpine Treeline Shifts under Global Climate Change ($500,000).*

NSF Artificial Intelligence on Sustainable Energy Infrastructure Network (AI SUSTEIN). PI. Project*: AI-supported Construction of Residential Rooftop Solar Deployment Database in EPSCoR Jurisdictions ($15,000)*

NSF Human-Environment and Geographical Sciences Program (HEGS). PI (with Co-PIs Lei Zou, Rui Liu, and Dantong Yu) *Understanding the transitions of spatial/social interactions in the post-pandemic era via big geospatial data ($400,000).*

NSF CIVIC Innovation Challenge. Co-PI (with PI Rui Liu, Co-PIs Elizabeth Carnahan, Andrea Galinski, and Zhenlong Li). Project: *Scalable Scenario-based Assessment for Community-level Flood Resilience and Adaptation Strategies ($1,000,000).*

Google Research Program Grant. PI (with Co-PI Lei Zou). Project: *Assessing the long-term impact of COVID-19 on spatial/social interactions via big geospatial data using resilience frameworks and network theories ($60,000).*

2022 Summer Research Stipends, Office of Diversity & Inclusion, University of Arkansas. PI. Project: *Assessing the long-term impact of COVID-19 on spatial/social interactions via big geospatial data ($5,000).*

Russell Sage Foundation, Trustee Grants, Program: Social, Political, and Economic Inequality. PI (with Co-PI Bo Zhao). Project: *Black businesses Matter: Investigating the impact of COVID-19 pandemic on Black-owned Restaurants in the U.S. and their post-pandemic recovery ($195,000).*

Awards, Honors, and Fellowships

2021   IEEE Young Professional Rising Star

2019   Second Place in Student Paper Competition, the 42nd of the Applied Geography Conference, Charlotte, NC, October 23-25.

Breakthrough Graduate Scholar, University of South Carolina.

The Paul E. Lovingood Graduate Research Award.

Second Place in Robert Raskin Student Paper Competition, American Association of Geographers (AAG) Cyberinfrastructure Specialty Group (CISG), Washington, DC, April 3-April 7.

2018   Second Place in Remote Sensing Specialty Group (RSSG) Student Paper Competition, American Association of Geographers (AAG), New Orleans, LA, April 10-April 14.

2017   First Place Student Paper Award, the 25th International Conference on GeoInformatics, Buffalo, OH, August 3.

2013   National Second-Class Scholarship, Wuhan University (WHU). ($500)

2012   National Second-Class Scholarship, Wuhan University (WHU). ($500)

CONFERENCES

Selected Oral Presentations (* for presenting author)

2023   Huang, X., Wang, S. *GeoAI in Human Geography*, The Symposium on Spatiotemporal Data Science, Harvard University, Cambridge, MA, July 15-16.

Huang, X.* *Human mobility under the COVID-19 pandemic: a scoping summary*, The 18th Annual Meeting of Chinese Geographic Information Science—Theories and Methods, Guilin, China, May 20. (Virtual).

Huang, X.* (invited panelist). *Research Mentoring III: Quantitative Research Methods*, American Association of Geographers (AAG) Annual Meeting, Denver, CO, March 23-27.

Huang, X.*, & Niu, Y. *Effective Learning in Geography: Combining Crowdsourcing and Digital Earth Technologies*. The 21st Annual Hawaii International Conference on Education. Hawaii, January 3-6.

Huang, X.*. *Urban community homophily revealed from big geospatial data: some exploratory investigations*, American Association of Geographers (AAG) Annual Meeting, Denver, CO, March 23-27.

Huang, X.., Bao, X.*, Li, Z., Zhang, S., & Zhao, B., Black businesses matter: a longitudinal study of black-owned restaurants in the COVID-19 using geospatial big data. American Association of Geographers (AAG) Annual Meeting, Denver, CO, March 23-27.

Naghedi, R.*, Huang, X., & Gheibi, M. A smart dashboard for forecasting disaster casualties: An investigation from sustainable development dimensions. EGU General Assembly, Vienna, Austria, April 23-28.

Yan, J., Huang, X., & Naghedi, R. *Evaluations on Viewshed Green View Index at distinct Local Climate Zones.* American Association of Geographers (AAG) Annual Meeting, Denver, CO, March 23-27.

2022   Huang, X.* *Flood exposure estimation in United States using national building footprints*, The Second Workshop of Asian Young Geographers, online, December 17-18.

Huang, X.*. *Large-scale Population Distribution Modeling using Building Footprints and Deep Learning Techniques*, The 29th International Conference on Geoinformatics, Beijing, China, August 15-18 (Virtual).

Huang, X.*. 2022. *Sensing population distribution from satellite imagery via deep learning: model selection, neighboring effect, and systematic biases*, American Association of

Geographers (AAG) Annual Meeting, New York City, NY, February 25-March 1 (Virtual).

Yang, D. *, & Huang, X*. A Meta-Learning Framework for Characterizing and Accessing Training Data for GLOBE Observer Mosquito and Land Cover Protocols. NASA's Artificial Intelligence Center of Excellence (AICOE) Seminar, April 20 (virtual).

Wang, S.*, Huang, X., & Shen, Q. Trends in Travel Demand of Ridesourcing during the Pandemic and Factors of Land Use: A Time-Series Clustering Analysis on Chicago Data, the 2022 Association of Collegiate Schools of Planning (ACSP) 62nd Annual Conferencee, Toronto, Ontario Canada, Noveember 3-6.

Wang, C.*, & Huang, X. 2022. *Big Earth Data: Fine-scale Population Grid from Census and Open Source Satellites,* the 2022 National Big Data Health Science Conference, February 11-12 (Virtual).

2021   Wang, S.*, Liu, Y, Li, Z., Huang, X., & Hu, T. *The impact of the COVID-19 pandemic on mental health in Australia: spatial disparity, social inequity, and unbalanced healthcare access*. The Regions, Economy and Society in the Post-COVID World Online Conference, Cambridge Journal of Regions, Economy and Society, September 17.

Sharman, G. *, Johnson, I., Huang, X., & Szymanski, E. P*redicting sand mineralogy within cordilleran orogenic systems: machine learning applied to a global database of modern-pleistocene sand samples*. 2021 Geological Society of America Annual Conference, Portland, OR, October 10-13.

Wang S.*, Wang, R., Huang, X., & Li, Z. 2021. *An analytical framework to evaluate the effect of COVID-19 on the restaurant industry: a study of New York City*. International Symposium on Geospatial Approaches to Combating Covid-19, Florence, Italy, December 13-14.

Huang, X.*. 2021. *COVID-19 exposes the long-standing social inequity issues in the U.S.,* Symposium on Human Dynamics Research: Emerging Urban-Geo Big Data in Transportation Research, American Association of Geographers (AAG) Annual Meeting, April 11 (virtual).

Wang, S. *, Noland, R., & Huang, X. 2021. *Does ridersourcing provide equitable accessibility?*. 2021 Association of Collegiate Schools of Planning (ACSP) Annual Conference, Miami, FL, October 7-9.

Sharman, G. *, Johnson, I, Huang, X., & Syzmanski, E. 2021. *Predicting sand mineralogy within Cordilleran orogenic systems: Machine learning applied to a global database of modern-Pleistocene sand samples*. 2021 Geological Society of America Annual Conference, Portland, OR, October 10-13.

Johnson, I. *, Sharman, G., Huang, X., & Syzmanski, E. 2021.*Machine learning applied to petrographic database: introducing the global prediction of sand minerology (GloPrSM)*. 2021 Geological Society of America Annual Conference, Portland, OR, October 10-13.

Wang, S. *, Noland, R., & Huang, X (**invited**). 2021. *Does ridersourcing provide equitable accessibility?*. Invited presentation at the 2021 World Symposium on Transport and Land Use Research (WSTLUR) conference, August 9-13 (virtual).

2020   Huang, X.*, Xu, D., Li, Z., & Wang, C. 2020. *Translating multispectral imagery to nighttime imagery via conditional generative advisarial network*. 2020 IEEE International Geoscience and Remote Sensing Symposium, Waikoloa, Hawaii, USA, July 19 - July 24 (virtual).

2019   Huang, X.* (invited panelist). 2019. *Deep learning in social media retrieval for rapid flood mapping.* U.S. Geological Survey: leveraging Crowdsourcing, Citizen Science, and Social Media to Produce Volunteer Geographic Information (VGI) for Hazard Science, Disaster Research, and Emergency Management, D.C, April 6.

Huang, X.* (invited speaker). 2019. *Combining virtual geographic environment and fieldwork to promote efficient learning in Geography.* Oktoberbest: A Celebration of Teaching, UoSC Russell House, October 18.

Huang, X.*, & Wang, C. 2019. *Social media data mining in supporting rapid flood inundation mapping.* The 74th Annual Meeting of SouthEastern Division of the American Association of Geographers, Wilmington, NC, November 24 - 25.

Huang, X.*. 2019. *Generating population grid in the CONUS by disaggregating census population with Microsoft building footprints.* The 74th Annual Meeting of SouthEastern Division of the American Association of Geographers, Wilmington, NC, November 24 - 25.

Huang, X.*, Wang, C., & Li, Z. 2019. *High-Resolution Population Grid in the CONUS using Microsoft Building Footprints: a feasibility study.* The 3rd ACM SIGSPTIAL Workshop on Geospatial Humanities, Chicago, IL, November 5 - 8.

Huang, X.*. 2019. *A high-resolution population grid in the CONUS based on Microsoft building footprints and its potentials in hazard studies.* Applied Geography Conference, Charlotte, NC, October 23 - 25.

Huang, X.*, Wang, C., & Li, Z. 2019. *Linking picture with text: tagging flood relevant tweets for rapid flood inundation mapping,* 2019 International Cartographic Conference, Tokyo, Japan, July 15 - 20.

Huang, X.*, Li, Z, & Wang, C. 2019. *Identifying disaster related social media for rapid response: a visual-textual fused approach,* AAG Annual Meeting, AAG Cyberinfrastructure Specialty Group (CISG), DC, April 3 - 7.

Wang, C.*, Morgan, G., Hodgson, M., Huang, X. 2019. *Drone based 3D Tree Structure Surveying on Earth Dams to Assist Dam Safety.* The 74th Annual Meeting of SouthEastern Division of the American Association of Geographers, Wilmington, NC, November 24 - 25.

2018   Wang, C.*, & Huang, X. 2018. *Integration of social sensing and remote sensing for situation awareness of coastal floods.* The 3rd Conference of Digital Belt and Road (DBAR), Tengchong, Yunnan Province, China, December 5 - 7.

Wang, C.*, & Huang, X. 2018. *Rapid flood inundation mapping via integrated social sensing and Earth sensing.* 2018 SEDAAG Annual Meeting, Johnson City, TN, November 8 - 19.

Wang, C.*, & Huang, X. 2018. *Rapid flood inundation reconstruction by integrating social media and satellite imagery.* Applied Geography Conference, Kent, OH, October 31 – November 2.

Huang, X.*, Wang, C., & Li, Z. 2018. *Reconstructing flood inundation probability by enhancing near real-time imagery with real-time gauges and tweets,* AAG Annual Meeting, Remote Sensing Specialty Group (RSSG), New Orleans, LA, April 13.

2017   Huang, X.*, Wang, C., & Li, Z. 2017. *A near real-time flood mapping approach by integrating social media and post-event satellite imagery,* The 25th International Conference on GeoInformatics, Buffalo, OH, August 3.

MEDIA COVERAGE

2022   Article titled *"Black Businesses Matter: A Longitudinal Study of Black-Owned Restaurants in the COVID-19 Pandemic Using Geospatial Big Data"* published on the Annals of the American Association of Geographers has been covered by multiple news outlets. Some selected media outlets are listed below:

- **UW Today:** *"Black-owned restaurants disproportionately impacted during pandemic"*, https://www.washington.edu/news/2022/08/29/black-owned-restaurants-disproportionately-impacted-during-pandemic/
- **UARK News:** *"Black-Owned Restaurants Impacted Disproportionately by COVID-19"*, https://news.uark.edu/articles/61813/black-owned-restaurants-impacted-disproportionately-by-covid-19?utm_source=newsletter&utm_medium=email2022-09-01&utm_campaign=news_headlines&utm_content=black-owned-restaurants-impacted-disproportionately-by-covid-19
- **OZARKSFIRST:** *"University of Arkansas study shows black-owned businesses disproportionately affected by pandemic"*, https://www.ozarksfirst.com/local-news/regional-news/arkansas/university-of-arkansas-study-shows-black-owned-businesses-disproportionately-affected-by-pandemic/
- **NEWSBREAK: "***University of Arkansas study shows black-owned restaurants disproportionately affected by pandemic"*, https://www.newsbreak.com/news/2728795798179/university-of-arkansas-study-shows-black-owned-restaurants-disproportionately-affected-by-pandemic
- **BLACK ENTERPRISE***: "Study Shows Black-owned Restaurants Struggled in the Pandemic Despite Help from Delivery APPs"*, https://www.blackenterprise.com/university-of-washington-study-shows-black-owned-restaurants-struggled-in-the-pandemic-despite-help-from-delivery-apps/
- **King 5 News***: "UW study finds Black-owned restaurants were disproportionately impacted during pandemic"*, https://www.youtube.com/watch?v=BmWbIhtLYoM

Article titled *"The times, they are a-changin': tracking shifts in mental health signals from early phase to later phase of the COVID-19 pandemic in Australia"* published on the British Medical Journal Global Health has been covered by multiple news outlets. Some selected media outlets are listed below:

- **UK Today News**, *"Tweets used to track Australian mental health swings during COVID pandemic"*, https://todayuknews.com/health/tweets-used-to-track-australian-mental-health-swings-during-covid-pandemic/.
- **UARK News: "***Tweets Used to Track Australian Mental Health Swings During COVID Pandemic"*, https://news.uark.edu/articles/58775/tweets-used-to-track-australian-mental-health-swings-during-covid-pandemic

2021   Article titled *"Staying at Home Is a Privilege: Evidence from Fine-Grained Mobile Phone Location Data in the United States during the COVID-19 Pandemic"* published on the Annals of American Association of Geographers has been covered by more than 20 news outlets. Some selected media outlets are listed below:

- **Taylor & Francis Breaking research**, *"Data from 45 million mobile users further confirms poorer communities less able to follow 'stay at home' COVID rules"*, https://newsroom.taylorandfrancisgroup.com/data-from-45-million-mobile-users-further-confirms-poorer-communities-less-able-to-follow-stay-at-home-covid-rules/

- **METRO**, *"Poor people more likely to be forced to ignore stay-at-home orders than the rich"*, https://metro.co.uk/2021/06/02/poorer-citizens-broke-lockdown-more-frequently-smartphone-data-shows-14699764.
- **Medical News**, *"Low-wage earners could not afford to comply with stay-at-home orders during lockdown"*, https://www.news-medical.net/news/20210602/Low-wage-earners-could-not-afford-to-comply-with-stay-at-home-orders-during-lockdown.aspx
- **Verywell-health**, *"Study: Stay-at-Home COVID Orders Were a Luxury Many Couldn't Afford"*, https://www.verywellhealth.com/stay-at-home-orders-low-income-covid19-5187273
- **Medical press**, *"Data from 45 million mobile users further shows poorer people less able to stay at home COVID rules"*, https://medicalxpress.com/news/2021-05-million-mobile-users-poorer-people.html
- **Big News Network**, *"Poorer people less able to stay at home amid COVID-19"*, https://www.bignewsnetwork.com/news/269666910/poorer-people-less-able-to-stay-at-home-amid-covid-19

2019   Research highlight by the Spatial Analysis and Modeling Specialty Group (SAM) in American Association of Geographers, "*100-year Flood Exposure in the Conterminous United States Using National Building Footprints*".
https://docs.wixstatic.com/ugd/4a5b75_9434b078133b45e0b5dba453e075fe40.pdf

Research highlight by the Hazards, Risks, and Disaster Specialty Group (HRD) in the American Association of Geographers: "Human settlement in hurricane-prone areas".
https://docs.wixstatic.com/ugd/4a5b75_2b88057e41c9489483088b79018751a7.pdf

Research highlight by the Applied Geography Specialty Group (AGSG) in the American Association of Geographers, "*Human Settlement in Hurricane-Prone Zones is Revealed by Nighttime Remote Sensing*".
https://docs.wixstatic.com/ugd/4a5b75_2c6511375189498ba6287fc53af0f18c.pdf

Research highlight by the Cyberinfrastructure Specialty Group (CISG) in American Association of Geographers, "*Visual-textual fused CNN architecture for rapid disaster related social media retrieval*.
https://docs.wixstatic.com/ugd/4a5b75_cca08cb9c381485eb9fac8bc32f341f0.pdf

INVITED TALK

2023   *Unveiling Geospatial Narratives Through COVID-19 and Big Data,* GIScience Research Group (GIScRG) at the Royal Geographical Society, July 05.

Lessons learned from the COVID-19 pandemic using geospatial big data, Research Seminar Series, Department of Environmental Sciences, Emory University, January 23.

Lessons learned from the COVID-19 pandemic using geospatial big data, Research Seminar Series, Department of Geography and Resource Management, Chinese University of Hong Kong, January 05.

2022   *The multifaceted impact of COVID-19 on human society—scoping review of selected pioneering studies*, Young Scientist Forum on Remote Sensing and Geographic Information Science, October 29 (Cancelled due to COVID-19).

(Keynote) *Social media mining under the COVID-19 context* in Deakin-UGM Joint Workshop on COVID-19 Fake News Detection and Intervention, invited by Deakin University and Universitas Gadjah Mada.

Understanding the disparate impact from the COVID-19 pandemic using big geospatial data, invited by the School of Architecture, Texas A&M University.

AI-Supported Cyberinfrastructure for Scalable Flood Resilience Assessment, invited by NSF DART Research Seed Grant Program, September 28.

Crowdsourcing Geospatial Data in Urban Sciences: Progress and Challenges, invited by Hong Kong Polytechnic University and Urban Informatics Journal, September 23.

Artificial Intelligence Application Examples, NASA STEM Enhancement in Earth Science (SEES) program, June 17

Urban crowdsourcing data: applications, methodologies, and future directions, GeoAI seminar, Wuhan University and the China University of Geosciences, May 24.

The impact of COVID-19: perspectives from big human mobility data, GeoHealth Hub research seminar, Department of Geography, National University of Singapore, May 20.

Human Behavioral Dynamics during the COVID-19 Pandemic via Big Geospatial Data. 2022 Spring Colloquium Series, Department of Geosciences, University of Arkansas, February 25.

Revealing the disparity in human mobility dynamics during the COVID-19 pandemic via data-driven approaches. Transportation Data Science Seminar Series by Landscape Architecture & Urban Planning at Texas A&M University, February 3.

2021   *Home-dwelling time pattern mining based on optimized Random Forest algorithm.* Research seminar invited by Beijing University, Wuhan University (Geocomputation Center for Social Science), and East China University of Science and Technology (Lab for Urban and Regional Analysis), July 15.

Unfolding community homophily in U.S. metropolitans via fine-grained mobile phone location data. Spatial Data Science Symposium, invited by University of California, Santa Barbara, December 13.

The disparity in home-dwelling time during the COVID-19 pandemic in the U.S. Joint Seminar invited by University of Maryland, Texas A&M University & University of Tennessee Transportation Engineering and Science Student Chapter, June 10.

SafeGraph Social Distancing Metrics for COVID-19 Studies. Invited by the Mobility Research Group of the China Data Lab and the Geo-computation Center for Social Sciences, Wuhan University, May 7.

COVID-19 reveals the social inequity issue in the U.S. Research Showcase invited by Placekey, May 21.

Sensing Population Distribution from Satellite Imagery via Deep Learning: Model Selection, Neighboring Effects, and Systematic Biases. GIScience Symposium Series No. 5 GeoAI, invited by Peking University, Institute of Geographic Sciences and Natural Resources Research (CAS), and Beijing Normal University, April 16.

Disparity in compliance with social distancing policies during the COVID-19 pandemic: evidence from fine-grained mobile phone data. Guest lecture for the Department of Geography, University of Utah, April 21.

2020   *Big mobility data reveal the luxury nature of social distancing and stay-at-home orders in the U.S. during the COVID-19 pandemic.* Research Seminar invited by Geoinsider, December 17.

Twitter and Disasters. Guest speaker, invited by Texas A&M University Chinese School, November 14.

Does social inequity stand in the way of the effective implementation of stay-at-home orders?. Seminar presenter invited by SafeGraph, November 12 (virtual).

Big Geospatial Data in Assisting Disaster Assessment. Research Colloquium, University of Arkansas, AR, February 14.

2019   *Sensing and Improving Rapid Flood Mapping through Social Media Data Mining*. Fall research seminar series in School of City & Regional Planning, Georgia Institute of Technology, Atlanta, GA, September 27.

GUEST LECTURE

2023   *Mobility data on human moving patterns: applications, challenges, and future directions*, in UrbaBig Data Analytics and Application, Chinese University of Hong Kong, March 20.

Lessons learned from the COVID-19 pandemic using geospatial big data in Research Methods in Geosciences, University of Arkansass, April 10.

TEACHING EXPERIENCE

University of Arkansas

Enterprise and Multiuser GIS (GEOS 4583/5583)

Introduction to Geodatabases (GEOS 3593/5593)

Geospatial Technologies Computational Toolkit (*GEOS 3103/5073*)

University of South Carolina

Geographic Information Systems (GEOG 363)

The Digital Earth (GEOG 105)

SERVICE

Served on Professional Committees

2022   Program Committee Member, the 15th International Workshop on Computational Transportation Science (IWCTS 2022), Seattle, Washington, November 1-4, 2022.

Organizing Committee, The International Society for Photogrammetry and Remote Sensing (ISPRS) geo-computation and geo-simulation working group.

Program Committee Member, the 5th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI 2022), Seattle, Washington, November 1-4, 2022.

Board of Directors, the International Association of Chinese Professionals in Geographic Information Sciences.

Judge, student paper competition in the 29th International Conference on Geoinformatics

2021   Program Committee Member, the 4th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery (GeoAI 2021), Beijing, China, November 5, 2021.

Award Committee Member, student paper competition, The 28th International Conference on Geoinformatic, Nanchang, Jiangxi Province, China, November 3-5.

Program Committee Member, the 4th ACM SIGSPATIAL International Workshop on Advances on Resilient and Intelligent Cities (ARIC 2021), Beijing, China, November 5, 2021.

2020   Program Committee Member, the 3rd ACM SIGSPATIAL International Workshop on Advances in Resilient and Intelligent Cities (ARIC 2020), Seattle, Washington, November 3, 2020

Organized Conference Sessions and Symposiums

2023   Chair, *Methodologies III (GeoAI)—The Symposium on Spatiotemporal Data Science*, Harvard University, Cambridge, MA, July 15-16.

Mentor (panel session), Research Mentoring II: Quantitative Research Methods, 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Chair, *Symposium on Human Dynamics Research—Big Mobility Data to Address Urban Challenges*, 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Chair, *Symposium on Human Dynamics Research—Human Mobility in Disaster Mitigation and Resilience*, 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Emerging Geo-Big Data Applications in Human Mobility Analysis,* 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Emerging Geo-Data Applications in Road Safety Studies*, 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Symposium on Human Dynamics Research—Advancing Knowledge in Social-Environment Interaction and Human Health I,* 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Symposium on Human Dynamics Research—Advancing Knowledge in Social-Environment Interaction and Human Health II,* 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Big Earth Data in Environment Management and Disaster Control*. The 2nd Workshop of Asian Young Geographers, online.

Co-chair, *Understanding human-pandemic dynamics using geospatial big data*, 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Co-chair, *Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Multimodal Learning with Geospatial Big Data,* 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

Organizing committee, *Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions*. 2023 Annual Meeting of American Association of Geographers, Denver, CO, March 23-27.

2022   Co-chair, *Big Earth Data for Disaster Mitigation*. The second workshop of Asian Young Geographers, Online, December 17-18.

Co-chair, *GeoAI for Urban-Rural Sensing*. The 29th International Conference on Geoinformatics, China University of Geosciences, Beijing, China, Augusts 15-18.

Chair, Symposium on *Human Dynamics Research: Urban computational paradigms with shareable data, models, tools, and frameworks,* 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Co-chair, Harnessing mobility data for spatial knowledge discovery: recent advances and challenges, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Organizer, Symposium on *Human Dynamics Research: Advances in geo-big data in urban informatics*, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Organizer, Symposium on *Human Dynamics Research: Human mobility in the Big Data era I*, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Organizer, Symposium on *Human Dynamics Research: Human mobility in the Big Data era II*, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Organizer, *GeoAI: Intelligent Geospatial Analytics*, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

Organizer, Symposium on *Data-Intensive Geospatial Understanding in the Era of AI and CyberGIS*, 2022 Annual Meeting of American Association of Geographers, New York City, NY, February 25-March 1.

2021   Co-Chair, Spatial and Temporal Thinking in Data-Driven Method: *Examining social connection and segregation leveraging emerging mobility data.* Spatial Data Science Symposium, December 13-14, 2021 (virtual)

Organizer, Symposium on *Human Dynamics Research: Emerging Urban-Geo Big Data in Transportation Research*, 2021 Annual Meeting of American Association of Geographers, Seattle, WA, April 7-11.

2019   Chair, Special Session: *Remote Sensing and Social Sensing for Improved Disaster Monitoring.* The 74th Annual Meeting of the Southeastern Division of the American Association of Geographers, Wilmington, NC, November 24-25

Editorial Services

Frontiers Remote Sensing (Review Editor) (2020-present)

Big Earth Data (Topic Editor) (2020-present)

Computational Urban Science (Associate Editor) (2020-present)

International Journal of Digital Earth (Editorial Board Member) (2022-present)

Journal of Remote Sensing (Editorial Board Member) (2022-2024)

PLOS ONE (Guest Editor) (2022-present)

Current Social Sciences (Editorial Board Member) (2022-present)

Nature Scientific Reports (Editorial Board Member) (2022-present)

Sustainability (Reviewer Board) (2020-present)

Heliyon (Review Editor) (2022-present)

Organized Journal Special Issues

2023   *International Journal of Applied Earth Observation and Geoinformation:* Sustainable geospatial analytics and geoinformatics with repeatable, reproduciable, and expandable (RRE) framework and design

Accident Anaysis & Prevention: Emerging Geospatial Data Applications in Road Safety Studies

Remote Sensing: Harnessing the Geospatial Data Revolution for Promoting Sustainable Transport System

Journal of Remote Sensing: Big Earth Data in Disaster Monitoring and Mitigation

2022   *Remote Sensing:* Forest remote sensing

Big Earth Data: Big Earth Data for Disaster Risk Reduction

International Journal of Applied Earth Observation and Geoinformation: Crowdsourcing Geospatial Data in Urban Sciences

Land: Innovative Research Approaches & Practices towards Sustainable Land Management, Preservation & Restoration

Remote Sensing: Research on the Structure and Function of Forest and Grassland Based on Multi-Source Remote Sensing Data

2021   *Computational Urban Science*: Promoting Urban Computational Paradigms with Shareable Data, Models Tools, and Frameworks.

International Journal of Environmental Research and Public Health: Spatial Analytics for COVID-19 Studies.

Frontiers in Future Transportation: Emerging Urban-Geo Big Data in Transportation Research.

Departmental and School Services

2021   Chair, Recruiting and Retention Committee, Department of Geosciences, University of Arkansas

2021   Search Committee, Department of Geosciences, University of Arkansas

Graduate Committee, Department of Geosciences, University of Arkansas

Award Committee, Department of Geosciences, University of Arkansas

Recruiting and Retention Committee, Department of Geosciences, University of Arkansas

2019   Discover USC Reviewer, Office of the Vice President for Research, University of South Carolina.

2018   Thinking Globally Ambassador, International Student Service, University of South Carolina.

2017   Organizing committee, Geography Professional Development Workshop, University of South Carolina.

Organizing committee, 2017 GIS day, University of South Carolina.

Advised Students (Chair & Member)

Jingjing Yan, Ph.D., University of Arkansas (committee chair) (2022-now)

Reza Naghedi, Ph.D., University of Arkansas (committee chair) (2022-now)

Michaelmary Chukwu, M.S., University of Arkansas (committee chair) (2022-now)

Jah Johnson, M.S., University of Arkansas (committee member) (2021-now)

Jack Fekete, Ph.D., University of Arkansas (committee member) (2021-now)

Victoria Karnes, M.S., University of Arkansas (committee member) (2020-2022)

Cassandra Howe, Ph.D., University of Arkansas (committee member) (2022-now)

Ayanna Rose, Ph.D., University of Arkansas (committee member) (2021-now)

Madison Worthy, M.S., University of Wyoming (committee member) (2021 -now)

Sierra Guzman, M.S., University of Wyoming (committee member) (2021-now)

Yunhe Cui, Ph.D., University of Connecticut (committee member) (2021-now)

Nelofar Qulizada, M.S., University of Arkansas (committee member) (2022-now)

Directed Undergraduate Projects

Capstone: R*esidential Rooftop Solar Panel Database Development using Computer Vision Techniques and Deep Learning Algorithms*, Department of Computer Science and Computer Engineering.

Journal Reviews (Year [Times])

Annals of American Association of Geographers (2020[3], 2022[1], 2023[2])
Annals of GIS (2020 [4], 2021[2])
Applied Geography (2020 [4])
Applied Sciences (2020[2])
Agronomy (2023[1])
Applied Economics (2023[1])
Big Earth Data (2020[2],2021[1])
BMC Medical Research Methodology (2022[3])
BMJ Open (2023[1])
Cities (2021[2], 2022[1], 2023[1])
Computational Urban Science (2021[11], 2022[12], 2023[4])
Computers, Environment and Urban Systems (2022[2], 2023[2])
Communications Medicine (2022[1])
Connected Health (2023[1])
Data in Brief (2022[2], 2023[1])
Environmental Pollution (2021[3])
Environment and Planning B: Urban Analytics and City Science (2021[1], 2022[1], 2023[1])
Environment & Behavior (2022[2]]
Geo-spatial Information Science (2020[1], 2021[3], 2022[2], 2023[1])
GeoInformatica (2021[1],2022[1])
GIScience & Remote Sensing (2022[2])
Geography and Sustainability (2023[1])
Future Generation Computer Systems (2021[1])
Frontiers in Environmental Science (2023[1])

Health & Place (2021[2], 2022[1])
Health Policy (2021[1])
Health Data Science (2021[2])
Heliyon (2023[2])
IEEE Journal of Selected Topics in Applied Earth Observation and Remote Sensing (2020 [2])
IEEE Transactions on Geoscience and Remote Sensing (2020 [3], 2022[1])
IEEE Transactions on Intelligent Transportation Systems (2022[2])
International Planning Studies (2022[1])
Information Processing and Management (2021[1])
International Journal of Applied Observation and Geoinformation (2021[1], 2022[3], 2023[2])
International Journal of Digital Earth (2018[4], 2020[2], 2021[9], 2022[3], 2023[2])
International Journal of Geographical Information Science (2021[4], 2022[3])
International Journal of Disaster Risk Science (2022[1], 2023[1])
International Journal of Health Geographics (2023[1])
ISPRS International Journal of Geo-Information (2021[1], 2022[3])
Journal of ambient intelligence and humanized computing (2020 [3])
Journal of Flood Risk Management (2021 [1])
Journal of ICT Research and Applications (2021[1])
Journal of Transport Geography (2022[1])
Journal of Asian Architecture and Building Engineering (2023[1])
JMIR Formative Research (JFR) (2022[1])
Journal of Medical Internet Research (JMIR) (2022[2], 2023[2])
Mathematical Biosciences and Engineering (2021[1])
Medical Research Archives (2022[1])
Nature Communications (2022[1])
Papers in Applied Geography (2019[3])
Photogrammetric Engineering and Remote Sensing (2020[1], 2021[7], 2022[2])
PLOS ONE (2020 [4], 2021[11], 2022[2],2023[1])
Remote Sensing Applications: Society and Environment (2021[1], 2022[1])
Remote Sensing (2021[3], 2022[1], 2022[3])
Scientific Reports (2021[3], 2022[5])
Security and Defence Quarterly (2022[1])
Soft Computing (2021[1])
Spatial and Spatio-temporal Epidemiology (2021[1])
Sustainability (2021[1], 2022[1])
Sustainability Analytics and Modeling (2023[1])
Transactions in GIS (2020[2], 2021[1])
Tropical Medicine and Infectious Disease (2022[1])
Telecommunications Policy (2023[1])
The Egyptian Journal of Remote Sensing and Space Sciences (2022[1])
Travel Behaviour & Society (2021[3], 2022[1])
Urban Informatcis (2022[2])
Water (2021[2])

Grant Reviews (Year [Times])

National Science Foundation (NSF) (2023[1])

Conference Proceeding Reviews (Year [Times])

The Sixth International Conference on Social Science Public Health and Education (2023[1])

IEEE International Conference on Acoustics, Speech and Signal Processing (2022[1])

The 15th International Workshop on Computational Transportation Science (2022[2])

The 29th International Conference on Geoinformatics (2022[13])

GeoAI'22 (The 5th International Workshop on AI for Geographic Knowledge Discovery) (2022[2])

GeoAI'21 (The 4th International Workshop on AI for Geographic Knowledge Discovery) (2021[3])

AAAI Conference on Artificial Intelligence (2021[8])

Book Chapter Reviews (Year [Times])

Geospatial stories of the global COVID-19 pandemic (2022[1])

Scholarly/Professional Organizations

Modeling Geographical Systems Commission (MGSC) (2022-present)

International Geographical Union (IGU) (2022-present)

Institute of Electrical and Electronics Engineers (IEEE) member (2018-present).

American Association of Geographers (AAG) member (2017-present).

Southeastern Division of the American Association of Geographers (SEDAAG) member (2017-2019).

International Association of Chinese Professional in Geographic Information Sciences (CPGIS) member (2017-present).

American Geographic Society (AGS) member (2017-2018).