Yuqin Jiang, Ph.D.

Assistant Professor
Department of Geography and Environment
University of University of Hawaiʻi at Mānoa
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EDUCATION

2022   Ph.D.   **Department of Geography, University of South Carolina**
Advisor: Dr. Zhenlong Li
Dissertation: *Quantifying human mobility patterns during disruptive events with geospatial big data*

2017   M.S.   **Department of Geography, University of South Carolina**
Advisor: Dr. Diansheng Guo
Thesis: *Urban accessibility measurement and visualization – a big data approach*

2014   B.A.   **Department of Geography, University at Buffalo**
Summa Cum Laude

Employment

2024 – present **Assistant Professor**
Department of Geography and Environment
University of University of Hawaiʻi at Mānoa

2023 – 2024   **Postdoctoral Scholar**
Department of Geography and Environmental Studies
Texas State University
Supervisor: Dr. Su Yeon Han

2022 – 2023   **Postdoctoral Researcher**
Zachry Department of Civil and Environmental Engineering
Texas A&M University
Supervisor: Dr. Ali Mostafavi

2018 – 2022   **Research Assistant**
Geoinformation and Big Data Research Lab
Campus GIS
Carolinas Integrated Science and Assessments
University of South Carolina

2016 – 2022   **Teaching Assistant**
Department of Geography
University of South Carolina

RESEARCH INTERESTS

Computational social science, spatial computing, spatial data science
Cyberinfrastructure and high-performance computing
Geospatial data and data-driven visualization
Big data, spatio-temporal data mining
Human mobility, nature hazards, transportation, social equity

HONORS AND AWARDS

2022	First Place in Robert Raskin Student Competition, Cyber Infrastructure Specialty Group of the Association of American Geographers ($300)
2019	UCGIS-CyberGIS Center at UIUC Award for Advancing Reproducible Geospatial Research
2019	AAG-UCGIS Summer School Travel Award for Reproducible Problem Solving with CyberGIS and Geospatial Data Science
2019	C. C. Royal Trustee Fellowship nominee, University of South Carolina
2018	Teaching Assistant Award, Department of Geography, University of South Carolina
2018	Third Place in Robert Raskin Student Competition, Cyber Infrastructure Specialty Group of the Association of American Geographers
2018	Outstanding Master's Thesis Award, Transportation Geography Specialty Group of the Association of American Geographers
2014	Outstanding Academic Performance Award, Department of Geography, University at Buffalo
2010 – 2014	International Admission Scholarship, University at Buffalo

RESEARCH GRANTS

2023	Research Grant for Emergency Management Applied Research, Texas A&M University ($10,000)
2019	SPARC Graduate Research Grant, University of South Carolina ($5,000)

PUBLICATION

Peer-reviewed Journal Articles

[19] **Jiang, Yuqin,** Zhenlong Li, Joon-Seok Kim, Huan Ning, Su Y. Han. "Comparative Analysis of Human Mobility Patterns: Utilizing Taxi and SafeGraph Data to Investigate Neighborhood-Scale Mobility in New York City". *Annals of GIS* (Under Review).

[18] **Jiang, Yuqin,** Yihong Yuan, and Su Y. Han. "An entropy-based measurement for understanding origin-destination trip distributions: a case study of New York City taxis." *Big Earth Data* (In press). arXiv preprint arXiv:2401.17467.

[17] Li, Xiangpeng., **Yuqin Jiang**, and Ali Mostafavi. "Hazard Exposure Heterophily in Socio-spatial Networks Contributes to Post-disaster Recovery in Low-income Populations." *International Journal of Disaster Risk Reduction.* 108 (2024). https://doi.org/10.1016/j.ijdrr.2024.104537.

[16] Rajput, Akhil A., **Yuqin Jiang**, Sanjay Nayak, and Ali Mostafavi. "Mapping Inequalities in Activity-based Carbon Footprints of Urban Dwellers using Fine-grained Human Trajectory Data". *arXiv preprint arXiv:2304.14417*

[15] Li, Xiangpeng, **Yuqin Jiang**, and Ali Mostafavi. "AI-assisted Protective Action: Study of ChatGPT as an Information Source for a Population Facing Climate Hazards." *AI & Society: Journal of Knowledge, Culture and Communication.* (Under revision). arXiv preprint arXiv:2304.06124.

[14] **Jiang, Yuqin.**, Andrey A. Popov, Zhenlong Li, and Michael E. Hodgson. "A Sensor-Based Simulation Method for Spatiotemporal Event Detection." *ISPRS International Journal of Geo-Information,* 13(5), 141; heeps://doi.org/10.3390/ijgi13050153.

[13] Huang, Xinke, **Yuqin Jiang**, and Ali Mostafavi. "The emergence of urban heat traps and human mobility in 20 U.S. cities." *npj Urban Sustainability*. 4.1 (2024): 6. https://doi.org/10.1038/s42949-024-00142-3.

[12] **Jiang, Yuqin**, Faxi Yuan, Hamed Farahmand, Kushal Acharya, Jingdi Zhang, and Ali Mostafavi. "Data-driven tracking of the bounce-back path after disasters: critical milestones of population activity recovery and their spatial inequality." *International Journal of Disaster Risk Reduction*, 92 (2023): 103693. https://doi.org/10.1016/j.ijdrr.2023.103693.

[11] **Jiang, Yuqin.**, Zhenlong Li, and Susan L. Cutter. "Social distance integrated gravity model for evacuation destination choice." *International Journal of Digital Earth*. 14.8 (2021): 1004-1018. DOI: 10.1080/17538947.2021.1915396.

[10] **Jiang, Yuqin**, Diansheng Guo, Zhenlong Li, Michael E. Hodgson. "A novel big data approach to measure and visualize urban accessibility." *Computational Urban Science*. 1.1 (2021): 10. DOI: https://doi.org/10.1007/s43762-021-00010-1.

[9] **Jiang, Yuqin**, Xiao Huang, and Zhenlong Li. "Spatiotemporal patterns of human mobility and its association with land use types during COVID-19 in New York City." *ISPRS International Journal of Geo-Information*. 10.5 (2021):344. DOI: 10.3390/ijgi10050344

[8] Li, Zhenlong, Xiao Huang, Xinyue Ye, **Yuqin Jiang**, Yago Martin, Huan Ning, Michael E. Hodgson, and Xiaoming Li. "Measuring Place Connectivity Using Big Social Media Data." *Scientific Report.* 11.1 (2021): 14694. DOI: https://doi.org/10.1038/s41598-021-94300-7

[7] Huang, Xiao, Zhenlong Li, **Yuqin Jiang**, Xinyue Ye, Chengbin Deng, Jiajia Zhang, and Xiaoming Li. "The characteristics of multi-source mobility datasets and how they reveal the luxury nature of social distancing in the U.S. during the COVID-19 pandemic." *International Journal of Digital Earth.* 14.4 (2021): 424-442. DOI: 10.1080/17538947.2021.1886358

[6] Li, Zhenlong, Shan Qiao, **Yuqin Jiang**, and Xiaoming Li. "Building a social media-based HIV risk behavior index to inform the prediction of HIV new diagnosis: a feasibility study." *AIDS*. 35 (2021): S91-99. DOI: 10.1097/QAD.0000000000002787

[5] Li, Zhenlong, Xiaoming Li, Dwayne Porter, Jiajia Zhang, **Yuqin Jiang**, Bankole Olatosi, and Sharon Weissman. "Monitoring the Spatial Spread of COVID-19 and Effectiveness of Control Measures Through Human Movement Data: Proposal for a Predictive Model Using Big Data Analytics." *JMIR Research Protocols*. 9.12 (2020): e24432. DOI: 10.2196/24432

[4] Huang, Xiao, Zhenlong Li, **Yuqin Jiang**, Xiaoming Li, and Dwayne Porter. "Twitter reveals human mobility dynamics during the COVID-19 pandemic." *PLoS ONE*. 15.11 (2020): e0241957. DOI: 10.1371/journal.pone.0241957

[3] Li, Zhenlong, Qunying Huang, **Yuqin Jiang**, and Fei Hu. "SOVAS: A Scalable Online Visual Analytic System for Big Climate Data Analysis." *International Journal of Geographical Information Science*, 34.6 (2020), 1188-1209.

[2] **Jiang, Yuqin**, Zhenlong Li, and Susan L. Cutter. "Social Network, Activity Space, Sentiment, and Evacuation: What Can Social Media Tell Us?." *Annals of American Association of Geographers*, 109.6 (2019): 1795-1810.

[1] **Jiang, Yuqin**, Zhenlong Li and Xinyue Ye. "Understanding Demographic and Socioeconomic Bias of Geotagged Twitter Users at the County Level." *Cartography and Geographic Information Science,* 46.3 (2019): 228-242. DOI: 10.1080/15230406.2018.1434834

Peer-reviewed Conference Paper

[1] **Jiang, Yuqin,** Zhenlong Li, and Xinyue Ye. "Measuring inter-city network using digital footprints from Twitter users." *Proceedings of the 2nd ACM SIGSPATIAL Workshop on Prediction of Human Mobility*. 2018.

PRESENTATIONS

Invited Talks:
[10] **Jiang, Y.** Access to Health Services. *Guest Speaker.* East Tennessee State University, Johnson City, TN, March 8, 2024

[9] **Jiang, Y.** Accessibility Measurement and Visualization – A Big Data Approach. *Guest Speaker.* Texas State University, San Marcos, TX, October 5, 2023

[8] **Jiang, Y.** Understanding Hurricane Evacuation Decisions using Social Media Data. *Guest Speaker.* Texas State University, San Marcos, TX, September 21, 2023

[7] Mostafavi, A. & **Jiang, Y.** Harnessing Big Data and AI to Augment Disaster Situational Awareness. *Applied Emergency Management Research Grant Symposium,* Texas Division of Emergency Management, College Station, TX, February 21, 2023

[6] **Jiang, Y.** Quantifying Human Mobility Patterns during Disruptive Events with Big Geospatial Data. *Construction, Geotechnical, and Structural Engineering Seminar*, Texas A&M University, College Station, TX, February 3, 2023

[5] Paal, S., Wang, Y., & **Jiang, Y**. Bring-Your-Own-Data Workshop: Exploratory Data Analysis, Texas A&M Institute of Data Science, Texas A&M University, College Station, TX, February 6, 2023

[4] **Jiang, Y.**, Social Media Big Data in Geographical Information Science. *Guest Lecturer,* University of South Carolina, Columbia, SC, December 3, 2019

[3] **Jiang, Y.**, Spatial Analysis with ArcGIS. *Guest Lecturer,* University of South Carolina, Columbia, SC, April 2, 2019

[2] **Jiang, Y.**, How to make maps?. *Guest Lecturer*, University of South Carolina, Columbia, SC, November 21, 2017

[1] Li, Z. & **Jiang, Y.**. Social Media, Human Movement, and the Eclipse, *Public Mini lecture on the Eclipse*, University of South Carolina, Columbia, SC, August 21, 2017

Conferences:
[12] **Jiang, Y.**, Yuan, Y., Han, S.Y. An entropy-based measurement for understanding origin-destination trip distributions: a case study of New York City taxis, *AAG Annual Meeting,* Honolulu, HI, April 16, 2024

[11] **Jiang, Y.**, Popov, A.A., Li, Z., Hodgson, M.E. A novel method for spatiotemporal event detection using Discrete Empirical Interpolation Method, *AAG Annual Meeting,* New York City & virtual, February 26, 2022

[10] **Jiang, Y.**, Li, Z., Cutter, S.L. Understanding human mobility pattern during hurricane evacuation, *Discover USC*, Columbia, SC (canceled due to COVID-19)

[9] **Jiang, Y.**, Li, Z., Cutter, S.L. Social connection integrated gravity modeling for evacuation destination choice, *AAG Annual Meeting,* Denver, CO (canceled due to COVID-19)

[8] **Jiang, Y.**, Li, Z., Cutter, S.L. Understanding human mobility pattern during hurricane evacuation with social media, *Big Data Health Science Conference*, Columbia, SC, February 10, 2020

[7] **Jiang, Y.**, Li, Z., Cutter, S.L., Analyzing Human Mobility Patterns during Hurricane Matthew Evacuation using Twitter, *AAG Annual Meeting,* Washington DC, April 5, 2019

[6] **Jiang, Y.**, Li, Z., Ye, X. Measuring inter-city network using digital footprints from Twitter users, *Proceedings of the 2nd ACM SIGSPATIAL International Workshop on PredictGIS*, Seattle, WA, USA. November 6, 2018

[5] **Jiang, Y.**, Li, Z. Social Network, Activity Space, Sentiment and Evacuation: What can Social Media Tell us?, *AAG Annual Meeting*, Artificial Intelligence and Deep Learning Symposium: Big Data and Mining for Natural Hazards Session, *AAG Annual Meeting*. New Orleans, LA. April 13, 2018

[4] Li, Z., Huang, Q., **Jiang, Y.**, Hu, F., SCOVAS: A Scalable Climate Online Visual Analytical System, *AAG Annual Meeting*. New Orleans, LA. April 13, 2018

[3] **Jiang, Y.** Measuring Multimodal Transit Accessibility in Urban Area – A Big Data Approach, *AAG Annual Meeting,* Transportation and Geospatial Modeling Session, Boston, MA. April 9, 2017

[2] **Jiang, Y.** Measuring Accessibility in Urban Area – A Big Data Approach, *Symposium on Research Computing Infrastructure*. University of South Carolina, Columbia, SC, April 15, 2016

[1] **Jiang, Y.** Measuring Accessibility in Urban Area: Case Study in New York City, *AAG Annual Meeting*, Spatial Data Mining and Big Data Analytics Session, San Francisco, CA. March 29, 2016

TEACH

2022 Spring   **Teaching Assistant** *Geographic Information Systems (GEOG 363)*

2021 Fall	**Teaching Assistant** *Geographic Information Systems (GEOG 363)*
2021 Fall	**Teaching Assistant** *Quantitative Methods in Geographic Research (GEOG531)*
2019 Spring	**Instructor** *Digital Earth (GEOG 105)*
2018 Fall	**Instructor** *Geographic Information Systems (GEOG 363)*
2018 Spring	**Instructor** *Digital Earth (GEOG 105)*
2017 Fall	**Lab Instructor** *Interpretation of Aerial Photo (GEOG 345)*
2017 Fall	**Lab Instructor** *Geographic Information Systems (GEOG 363)*
2017 Fall	**Teaching Assistant** *GIS-Based Modeling (GEOG 564)*
2017 Spring	**Lab Instructor** *Geographic Information Systems (GEOG 363)*
2016 Fall	**Lab Instructor** *Geographic Information Systems (GEOG 363)*
2016 Spring	**Lab Instructor** *Geographic Information Systems (GEOG 363)*
2015 Fall	**Lab Instructor** *Geographic Information Systems (GEOG 363)*
2015 Spring	**Lab Instructor** *Geographic Information Systems (GEOG 363)*

SERVICE

2022 – 2023	Ad hoc reviewer for NSF proposals, Human-Environment and Geographical Science Program
2022	Organizer and chair for AAG session "Symposium on Human Dynamics Research: Human Mobility in Big Data Era I & II", New York City & virtual
2021	Selection Committee for "Methods Training for Students" – COVID-19 Task Force Program, American Association of Geography
2020	Volunteer for Big Data Health Science Conference. University of South Carolina, Columbia, SC
2020	Organizer and chair for AAG session "Symposium on Human Dynamics Research: Human Mobility in Big Data Era" (canceled due to COVID-19)
2019 – 2020	Student Board, Cyberinfrastructure Specialty Group, American Association of Geography

GRANT PROPOSAL PREPARATION

| Oct 2023 | **Program:** Texas State University Research Enhancement Program
Title: The Growing Pains of Austin: Urban Development and Its Implications
PI: Dr. Su Yeon Han (I contributed to the proposal writing)
Co-PI: Dr. Yihong Yuan
Result: Rejected. |

Mar 2023   **Program:** The Texas A&M University System Grants for Emergency Management Applied Research
Title: Harnessing Big Data and AI to Augment Disaster Situational Awareness
PI: Dr. Ali Mostafavi
Co-PI: Dr. Yuqin Jiang
Result: Funded. Amount: $10,000.

Mar 2023   **Program:** National Oceanic and Atmospheric Administration – Small Business Innovation Research Phase I
Title: AI-Driven and Fairness-Aware Intelligent System for Automated Rapid Flood Damage Assessment
PI: Dr. Yuqin Jiang
Co-PI: Drs. Ali Mostafavi
Result: Rejected.

Mar 2023   **Program:** Department of Defense Small Business Innovation Research Program
Title: Fairness Aware Interpretable Machine Learning for Exposing Environmental Justice and Health Disparities in Overburdened Communities under Climate Change Impacts
PI: Dr. Yuqin Jiang
Co-PI: Dr. Ali Mostafavi
Result: Rejected.

Jan 2023   **Program:** National Science Foundation – Decision, Risk, and Management Sciences Program
Title: Critical Community Disaster Recovery Milestones Identification
PI: Dr. Ali Mostafavi (I contributed to the proposal writing)
Results: Rejected.

Jan 2023   **Program:** National Cooperative Highway Research Program
Title: Transportation Asset Risk & Resilience Manual
PI: Dr. Ali Mostafavi (I contributed to the proposal writing)
Co-PI: Drs. Kambiz Rasoulkhani, Shangjia Dong, Chao Fan
Result: Rejected.

Dec 2022   **Program:** National Science Foundation – Small Business Innovation Research Phase I

Title: AI-Empowered Digital Twin for Climate Resilience Analytics
PI: Dr. Yuqin Jiang
Co-PI: Dr. Ali Mostafavi & Barry Lee
Result: Rejected.

Nov 2022   **Program:** National Academies Gulf Research Program
Title: Harnessing Big Data and Analytics for Addressing Environmental Justice and Health Outcomes under Climate Change Impacts
PI: Dr. Ali Mostafavi (I contributed to the proposal writing)
Result: Rejected.

May 2020   **Program:** University of South Carolina Advanced Support for Innovative Research Excellence (ASPIRE)
Title: Rapid Estimation of Visitation Activities in U.S. National Parks by Mining Social Media Data
PI: Dr. Zhenlong Li (I contributed to the proposal writing)
Co-PI: Dr. John Kupfer
Result: Awarded. Amount: $14,846

Apr 2020   **Program:** National Science Foundation Grants for Rapid Response Research
Title: Monitoring the Spatial Spread of COVID-19 through the Lens of Human Movement using Big Social Media Data
PIs: Dr. Zhenlong Li (I contributed to the proposal writing)
Co-PIs: Drs. Dwayne Porter & Xiaoming Li
Result: Awarded. Amount: $108,717.

Mar 2020   **Program:** University of South Carolina COVID-19 Internal Funding Initiative
Title: A preliminary Study of Using Social Media to Monitor the Spatial Propagation of COVID-19 and Quantify the Effectiveness of the Control Measures
PI: Dr. Zhenlong Li (I contributed to the proposal writing)
Co-PIs: Drs. Xiaoming Li & Bankole Olatosi
Result: Awarded. Amount: $13,017.

Nov 2019   **Program:** University of South Carolina Support to Promote Advancement of Research and Creativity (SPARC) Graduate Research Grant Program
Title: Analyzing Human Mobility Patterns during Hurricane Matthew Evacuation

PIs: Yuqin Jiang & Dr. Zhenlong Li
Result: Awarded. Amount: $5000.

Jan 2018 **Program:** National Socio-Environmental Synthesis Center
Title: Analyzing Big Geosocial Data to Enrich Human-Centric Information for Disaster Management
PI: Dr. Zhenlong Li (I contributed to the proposal writing)
Result: Rejected.

JOURNAL REVIEWS (year[reviews])

Computational Urban Science (2024[1])
Theoretical and Applied Climatology (2024[1])
Electronics (2024[1])
Geo-spatial Information Science (2023[1])
Land (2023[1])
International Journal of Digital Earth (2018[3], 2021[1], 2022[1])
PlosONE (2018[1], 2019[1], 2021[2], 2023[1])
Annals of American Association of Geographers (2019[1], 2021[1])
Applied Geography (2020[1])
International Journal of Geo-Information (2021[4], 2023[2])
Sustainability (2021[1])
Scientific Report (2021[2], 2023[1])
International Journal of Applied Earth Observation and Geoinformation (2021[1], 2022[1], 2023[1])

STUDENT MENTORED

Ana Jimenez	Undergraduate Researcher	
	Computer Science, Texas A&M University	
David Bell	Undergraduate Researcher	
	Mechanical Engineering, Texas A&M University	
Yu Heng Chien	Master student	
	Computer Science, Texas A&M University	
Sanjay Nayak	Master student	
	Computer Science, Texas A&M University	
Xiangpeng Li	Ph.D. student	
	Civil and Environmental Engineering, Texas A&M University	
Xinke (Ada) Huang	Ph.D. student	
	Civil and Environmental Engineering, Texas A&M University	
Akhil Anil Rajput	Ph.D. student	
	Civil and Environmental Engineering, Texas A&M University	
Kai Yin	Ph.D. student	
	Civil and Environmental Engineering, Texas A&M University	

PROFESSIONAL MEMBERSHIP

2014-present   American Association of Geographers (AAG)

2017-2022   Southeastern Division of the American Association of Geographers (SEDAAG)

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