

JINWEN XU

Research Associate

Geographic Information Systems Center, Florida International University
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RESEARCH AND TEACHING INTERESTS

Disaster Resilience; Geospatial Data Science; CyberGIS; Machine Learning

EDUCATION

University of South Florida, United States Aug 2020 – May 2023

PhD in Geography and Environmental Science and Policy

- Committee: Dr. Yi Qiang (chair), Dr. Ran Tao, Dr. Steven Reader, Dr. Robin Ersing, Dr. Lei Zou
- Dissertation Title: Prepare, Respond, Recover, and Learn from Disasters: Using Data-Driven Methods to Model Community Resilience

Arizona State University, United States Aug 2015 – Dec 2017

Master of Urban and Environmental Planning (MUEP)

GPA: 4.0/4.0

- Applied Professional Project: Analysis of Housing Opportunity in Phoenix Metropolitan Area
- Transportation Systems (Certificate)

Beijing Normal University Sep 2012 – Jun 2016

B.S. in Urban and Rural Planning & Resource Management

GPA: 3.5/4.0

- Thesis: Spatial Efficiency Analysis of Elderly Food Supply - A case study of Xicheng and Yanqing
- Minor in International Trade

PUBLICATIONS AND PRESENTATIONS

Refereed Articles

9. Carlson, K. M., Mora, C., **Xu, J.**, Setter, R. O., Harangody, M., Franklin, E. C., Kantar, M. B., Lucas, M., Menzo, Z. M., Spirandelli, D., Schanzenbach, D., Warr, C. C., Wong, A. E., & Businger, S. (2022). Global rainbow distribution under current and future climates. *Global Environmental Change*, 77, 102604.
8. Gao, Z., Jijiwa, M., Nasu, M., Borgard, H., Gong, T., **Xu, J.**, Chen, S., Fu, Y., Chen, Y., Hu, X., Huang, G., & Deng, Y. (2022). Comprehensive landscape of tRNA-derived fragments in lung cancer. *Molecular Therapy-Oncolytics*, 26, 207-225.
7. Qiang, Y., Battenfield, B., & **Xu, J.** (2022). Analyzing multi-scale spatial point patterns in a pyramid modeling framework. *Cartography and Geographic Information Science*, 49:4, 370-383.
6. **Xu, J.**, & Qiang, Y. (2022). Analysing Information Diffusion in Natural Hazards using Retweets - a Case Study of 2018 Winter Storm Diego. *Annals of GIS*, 28:2, 213-227.

5. **Xu, J.**, & Qiang, Y. (2021). Spatial Assessment of Community Resilience from 2012 Hurricane Sandy Using Nighttime Light. *Remote Sensing*, 13:20, pp: 4128.
4. Qiang, Y., Huang, Q., & **Xu, J.** (2020). Observing community resilience from space: Using nighttime lights to model economic disturbance and recovery pattern in natural disaster. *Sustainable Cities and Society*, 57, 102115.
3. Qiang, Y., **Xu, J.**, & Zhang, G. (2020). The shapes of US cities: Revisiting the classic population density functions using crowdsourced geospatial data. *Urban Studies*, 57:10, 2147-2162.
2. Qiang, Y., & **Xu, J.** (2020). Empirical assessment of road network resilience in natural hazards using crowdsourced traffic data. *International Journal of Geographical Information Science*, 34:12, 2434-2450.
1. Li, W., Lo, L., & **Xu, J.** (2017). US minority depository institutions at the dawn of the twenty-first century. *Papers in Applied Geography*, 3:3-4, 243-261.

Refereed Manuscripts Under Review or in Preparation

3. **Xu, J.**, Qiang, Y., Cai, H., Zou, L. (2022) Power Outage and Environmental Justice in Winter Storm Uri: An Analytical Workflow Based on Nighttime Light Remote Sensing. *International Journal of Digital Earth*. (Major revision)
2. **Xu, J.**, Qiang, Y. Spatiotemporal Flood Exposure Changes in the CONUS from 2001 – 2019 (submitted to *Cartography and Geographic Information Science*, pending review)
1. **Xu, J.**, Qiang, Y. Human Dynamics in Natural Hazards – Mining Business Visitation Data during 2021 Winter Storm Uri in Texas (Working paper available)

Refereed Conference Participation and Presentations

5. (Presenter) **Xu, J.** & Qiang, Y. 2023. Human Dynamics in Natural Hazards – Mining Business Visitation Data during 2021 Winter Storm Uri in Texas. [Paper presentation] AAG 2023, March 24, Denver, CO
4. (Presenter) **Xu, J.** & Qiang, Y. 2022. Spatiotemporal Flood Exposure Changes in the CONUS from 2001 – 2019. [Paper presentation] AutoCarto 2022, November 3, Redlands, CA
3. (Presenter) **Xu, J.** & Qiang, Y. 2022. Apply Nighttime Light in Disaster Resilience Assessment of Infrastructures and Communities in 2021 Texas Winter Storm. [Paper presentation] 2022 American Association of Geographers (AAG) Annual Meeting, March 1, Online
2. (Presenter) **Xu, J.** & Qiang, Y. 2020. Assessing Disaster Resilience from Social Media and Nighttime Light [Poster presentation] in 2020 UCGIS Symposium, June 1, Online
1. (Presenter) **Xu, J.** & Qiang, Y. 2019. Using Twitter Data to Analyze Information Diffusion and Public Perception on Natural Hazards. [Paper presentation] 2019 AAG Annual Meeting, April 3, Washington D.C.

Organized Sessions and Workshops

4. (Co-organizer) Workshop on Twitter Data Analytics, University of South Florida, April 19 & 21, 2022
3. (Organizer, chair) Symposium on Scale in Spatial Analytics and Modeling: Scales of Vulnerability, Resilience and Disaster Risk Assessment, 2022 AAG Annual Meeting, February 26, Online
2. (Co-organizer) Workshop on Social Media Data for Spatial Analysis, University of Hawaii at Manoa, May 2, 2019

1. (Guest Speaker) Talk on the Use of Online Mapping Tool (ArcGIS Online) to APA 450 Asian Pacific American Contemporary Issues at Arizona State University

ACADEMIC APPOINTMENTS

- Research Associate, Florida International University, Miami FL** May 2023 – Present
- Duties:
- 1) Engaged in research projects
 - a. UI/UX design of EPA-funded future Sea Level Rise Project in Indian River Lagoon
 - 2) Offer public service in the areas of GIS and Remote Sensing (RS)
- Research Assistant, University of South Florida, Tampa FL** Aug 2020 – Dec 2022
- Duties:
- 1) Use Python, R, and ArcGIS to process and analyze remote sensing images and GIS data.
 - 2) Use machine learning methods (e.g. deep neural network, random forest) to quantify relations between NTL and human activities in natural disasters.
 - 3) Developed parallel algorithms in R (doSNOW) to accelerate data-intensive computing tasks.
- Researcher, University of Hawaii at Manoa, Honolulu HI** Aug 2018 – May 2020
- Duties:
- 1) Use parallel-optimized Python programs (multiprocess) to conduct a cross-scale spatio-temporal model of Moran's I in land use data
 - 2) Integrating spatial analysis and natural language processing (latent dirichlet allocation) to analyze information diffusion and public perception in 2018 during Winter Storm Diego & Hurricane Dorian
- Researcher, Arizona State University** Aug 2017 – Dec 2017
- Duties: Use SPSS and ArcGIS to analyze the correlation between seasonal ridership and bus stop shade access in Phoenix
- Housing Analysis Intern, Southwest Fair Housing Council, Tucson AZ** Mar 2017 – Dec 2017
- Duties: Apply ArcGIS and American community survey data to analyze housing opportunities in Phoenix Metropolitan Area (work remotely)
- Planning Intern, ISA Internationales Stadtbauatelier, Beijing China** Jun 2016 – Jul 2016
- Duties: Urban design illustration and presentation of strategic planning for urban development in Airport New City of XiXian New Area
- Researcher, Beijing Normal University, Beijing China** Sep 2015 – Jun 2016
- Duties:
- 1) Use ArcGIS to produce map series of international commodity trading between China and other countries based on the United Nation (UN) Comtrade Database
 - 2) Apply road network analysis in ArcGIS to perform spatial efficiency analysis of elderly food supply - a case study of Xicheng (urban) and Yanqing (rural) District in Beijing

TEACHING

Instructor

University of Hawaii at Manoa, Honolulu, HI

(2020 Summer) GEOG 101L The Natural Environment Lab	[Overall course evaluation: 4.50/5]
(2020 Spring) GEOG 388 Introduction to GIS	[Overall course evaluation: 4.61/5]
(2019 Fall) GEOG 101L The Natural Environment Lab	[Overall course evaluation: 4.92/5]
(2019 Summer) GEOG 388 Introduction to GIS	[Overall course evaluation: 4.44/5]

Teaching Assistant

University of South Florida, Tampa, FL

(2022 Summer) EVR 2861 Intro to Environmental Policy
(2022 Spring) GEO 4930 & GIS 6307 Geographic Information Systems
(2021 Fall) GIS 6100 Geographic Information Systems
(2021 Spring & 2020 Fall) GIS 4043C & GIS 5049 Geographic Information Systems

University of Hawaii at Manoa, Honolulu, HI

(2019 Fall) GEOG 476 Web Mapping
(2019 Spring) GEOG 389 Geospatial Data Analytics
(2018 Fall) GEOG 104 Digital Earth

Arizona State University, Tempe, AZ

(2017 Fall) PUP 465 Sustainable Urbanism
(2017 Fall) PUP 301 Introduction to Urban Planning
(2017 Spring) PUP 200 Cities in Cinema
(2016 Fall) GIS 321 Programming for GIS

AWARDS

2023 Cartography and Geographical Information Society (CaGIS) Scholarship Awards (\$1500, 2023 Spring)
USF Tampa Conference Presentation Grant (\$500, 2023 Spring)
Honorable mentions in AAG GISS Student Paper Competition (\$200, 2023 Spring)
Dissertation Completion Fellowship, University of South Florida (\$9000, 2023 Spring)
CaGIS Student Assistantship in AutoCarto 2022 (\$750, 2022 Fall)
Tharp Endowed Scholarship, University of South Florida (\$800, 2020 Fall & 2021 Spring)
University Consortium for Geographic Information Science (UCGIS) Travel Award (\$250, 2020 Spring)
Research Award, Dept of Geography and Environment, UH Manoa (\$700, 2020 Spring)
Achievement Scholarship, University of Hawaii at Manoa (\$500, 2019 Fall)
East-West Center Conference Scholarship (\$800, 2019 Spring)
Geographical Sciences TA Award, Arizona State University (\$300, 2016 Fall)

SERVICES, LEADERSHIP, AND MEMBERSHIP

Journal Article Reviewer

Scientific Report	Annals of GIS
International Journal of Digital Earth	GeoJournal
International Journal of Disaster Risk Reduction	Computational Urban Science
International Journal of Geographical Information Science	

Leadership

Board of Director (BOD)	Chinese Professional in Geographic Information Systems	2022-2024
Student Director	AAG CyberInfrastructure Specialty Group (CISG)	2022-2023
Founder and President	GIS Club at USF	2022-2023
Secretary	Upsilon Rho Beta Honor Society at ASU	2016-2017

Membership

Student Member	Cartography and Geographic Information Society	2022-present
Student Member	University Consortium for Geographic Information Science	2019-present
Student Member	American Association of Geographers	2018-present
Student Affiliate	East-West Center	2019-2020
Student Member	American Planning Association	2016-2019