

YUE LIN

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EDUCATION

Ph.D., Geography The Ohio State University, Columbus, OH	2023
B.S., Geographic Information Science Wuhan University, Wuhan, China	2019

RESEARCH AND TEACHING INTERESTS

Geographic information science
Human-centered geospatial data science
Geospatial artificial intelligence
Spatial analysis and modeling
Privacy and geoethics
Cities, space, and society

AWARDS AND HONORS

Third Place Student Lightening Talks Award, <i>University Consortium for Geographic Information Science</i>	2022
Fenburr Travel Scholarship for Outstanding PhD Student, <i>The Ohio State University</i>	2022
Student Travel Award, <i>Spatial Analytics and Modeling (SAM) Specialty Group, American Association of Geographers</i>	2022
First Place Doctoral Student Paper Award, <i>East Lakes Division of the American Association of Geographers</i>	2021
First Place Student Paper Award, <i>University Consortium for Geographic Information Science</i>	2021
First Place Award, AAG Robert Raskin Student Competition, <i>Cyberinfrastructure (CI) Specialty Group, American Association of Geographers</i>	2021
AAG Kauffman Runner-Up Award for Best Student Paper in Geography & Entrepreneurship, <i>American Association of Geographers</i>	2020
Department Travel Scholarship for AAG Annual Meeting, <i>The Ohio State University</i>	2019
Outstanding Bachelor's Thesis Award, <i>Wuhan University</i>	2019
Outstanding Graduate Award, <i>Wuhan University</i>	2019
Wang Zhizhuo Innovative Talent Scholarship (First Class), <i>Wuhan University</i>	2018
Zhonghaida Scholarship (First Class), <i>Wuhan University</i>	2017
Outstanding Student Award, <i>Wuhan University</i>	2016–2018
Second Class Scholarship, <i>Wuhan University</i>	2016

GRANTS

- PI. Location privacy and confidentiality: Towards ethical geospatial big data harnessing. *UCGIS I-GUIDE Community Champions Program, University Consortium for Geographic Information Science (Part of National Science Foundation Harnessing the Data Revolution Institute: Geospatial Understanding through an Integrative Discovery Environment, PI: Shaowen Wang)*, \$3,000. 2022
- Key personnel (with PI: Ningchuan Xiao). Human mobility: Understanding the impact of COVID-19 and its social and economic contexts in Columbus, OH using traffic camera feeds. *National Science Foundation Geospatial Fellows Program, University of Illinois at Urbana-Champaign*, \$2,400. 2020–2021

PUBLICATIONS

Manuscripts in Submission/Preparation

- Lin, Y.** & Xiao, N. A stochastic spatial optimization approach to privacy and utility of geographically aggregated data. (in preparation) 2022
- Lin, Y.** & Xiao, N. Exploring trade-offs between privacy and utility of geographic data: A multiobjective optimization approach. (in preparation) 2022
- Lin, Y.** & Xiao, N. Generating small area synthetic microdata for public use: Towards accessible and reproducible science. (in preparation) 2022
- Xiao, N., Kim, M.J., & **Lin, Y.** A multistart and recombination algorithm for finding diverse solutions to spatial aggregation problems. *ACM Transactions of Spatial Algorithms and Systems*. (under review) 2022
- Lin, Y.**, Xu, C., & Wang, J. sandwichr: Spatial interpolation based on spatial stratified heterogeneity in R. *International Journal of Geographical Information Science*. (under review) 2022

Refereed Journal Articles

- Lin, Y.** & Xiao, N. Identifying high accuracy regions in traffic camera images to enhance the estimation of road traffic metrics: A quadtree-based method. *Transportation Research Record*. 2022
- Zhang, X., **Lin, Y.**, Cheng, C., & Li, J. Determinant powers of socioeconomic factors and their interactive impacts on particulate matter pollution in North China. *International Journal of Environmental Research and Public Health*, 18(12), 6261. 2021
- Lin, Y.**, Kang, M., & He, B. Spatial pattern analysis of address quality: A study on the impact of rapid urban expansion in China. *Environment and Planning B: Urban Analytics and City Science*, 48(4), 724–740. 2021
- Lin, Y.**, Wang, J., & Xu, C. Theoretical and empirical comparative evaluations on measures of map association. *Journal of Geographical Systems*, 22, 361–390. 2020
- Lin, Y.**, Kang, M., Wu, Y., Du, Q., & Liu, T. A deep learning architecture for semantic address matching. *International Journal of Geographical Information Science*, 34(3), 559–576. 2020
- Lin, Y.**, Cai, Y., Gong, Y., Kang, M., & Li, L. Extracting urban landmarks from geographical datasets using a random forests classifier. *International Journal of Geographical Information Science*, 33(12), 2406–2423. 2019

Conference Proceedings

Lin, Y. & Xiao, N. Developing synthetic individual-level population datasets: The case of contextualizing maps of privacy-preserving census data. In *AutoCarto 2022 Online Proceedings*. 2022

Software

Lin, Y., Xu, C., & Wang, J. sandwichr: Spatial interpolation based on spatial stratified heterogeneity. R package version 1.0.1. <https://cran.r-project.org/web/packages/sandwichr/> 2022

PRESENTATIONS

Papers Presented at Professional Meetings

Lin, Y. & Xiao, N. Developing synthetic individual-level population datasets: The case of contextualizing maps of privacy-preserving census data. *AutoCarto 2022, The 24th International Research Symposium on Cartography and GIScience*. November 2–4, Redlands, CA. 2022

Lin, Y. & Xiao, N. A stochastic spatial optimization approach to privacy and utility of geographically aggregated data. *UCGIS Symposium 2022: GIScience Forward: Meeting the Challenge*. June 7–9, Syracuse, NY. 2022

Lin, Y. & Xiao, N. Location privacy of the geographically aggregated data protected by differential privacy: A case of the United States Census. *The 2022 Annual Meeting of the American Association of Geographers*. February 25–March 1, virtual. 2022

Lin, Y., Xu, C., & Wang, J. sandwichr: An R package for spatial interpolation based on spatial stratified heterogeneity. *The 2021 Joint Annual Meeting of Applied Geography Conference/East Lakes AAG/West Lakes AAG*. October 14–16, virtual. 2021

Lin, Y. & Xiao, N. Identifying high accuracy regions in traffic camera images to enhance density estimation: A quadtree-based method and applications. *UCGIS Symposium 2021: Advancing GIScience-informed Policy Solutions*. June 7–11, virtual. 2021

Lin, Y. & Xiao, N. Traffic density estimation from camera feeds: An approach using deep learning and high accuracy regions. *The 2021 Annual Meeting of the American Association of Geographers*. April 7–11, virtual. 2021

Lin, Y. A deep learning architecture for semantic address matching. *The 2021 Annual Meeting of the American Association of Geographers*. April 7–11, virtual. 2021

Lin, Y. Extracting urban landmarks from geographical datasets using a random forests classifier. *Symposium on AI and Social Good, Carnegie Mellon University*. April 23–24, virtual. 2020

Poster Presentations

Lin, Y. & Xiao, N. A stochastic spatial optimization approach to privacy and utility of geographically aggregated data. *UCGIS Symposium 2022: GIScience Forward: Meeting the Challenge*. June 7–9, Syracuse, NY. 2022

Campus/Departmental Talks

Lin, Y. & Xiao, N. Does differential privacy protect location privacy in geographically aggregated data publication? *3C GIS Day(s)*. November 15–19, virtual. 2021

Lin, Y. Traffic density estimation from camera feeds: An approach using deep learning and high accuracy regions. *GeoWeek*. November 16, virtual. 2020

Lin, Y. Extracting urban landmarks from geographical datasets using a random forests classifier. *Geography Visit Day*. March 20, virtual. 2020

Invited Panelist

Towards transparent and ethical human mobility data. *Geospatial Fellows Webinar Series, University of Illinois at Urbana-Champaign*. June 28, virtual. 2021

RESEARCH EXPERIENCE

Graduate Research Associate

Center for Urban and Regional Analysis, The Ohio State University, Columbus, OH 2022–2023

- Developing machine learning models to investigate how freeway construction in the 20th century segregated communities of color in Ohio using the historic Sanborn Fire Insurance Atlas
- Creating a 3D web-based visualization platform for the lost neighborhoods to foster community understanding of residential segregation, urban renewal, and freeway construction

TEACHING EXPERIENCE

Instructor of Record

The Ohio State University, Columbus, OH 2022

- GEOG 5201: Geovisualization (SP22)

Graduate Teaching Associate

The Ohio State University, Columbus, OH 2019–2021

- GEOG 5201: Geovisualization (SP20 & AU21)
- GEOG 4103: Introductory Spatial Data Analysis (SP21)
- GEOG 3300: Transportation Security (SP21)
- GEOG 5226: Spatial Simulation and Modeling in GIS (AU20)
- GEOG 5222: GIS Algorithms and Programming (AU19)

PROFESSIONAL CERTIFICATION

Graduate Certificate in College and University Teaching, *The Ohio State University* 2022

SERVICE

University Service

Ph.D. Representative on Graduate Studies Committee, Graduate Geography Organization, *The Ohio State University* 2020–2021

Professional Service

Student Assistant, AutoCarto 2022, The 24th International Research Symposium on Cartography and GIScience, *Cartography and Geographic Information Society* 2022

Co-Chair, Organizing Committee, AAG 2022 Summer Series Graduate Forums, *American Association of Geographers* 2022

Committee Member, Education Committee, 2022 UCGIS Symposium, *University Consortium for Geographic Information Science* 2022

Committee Member, Award Committee, Graduate Student Affinity Group (GSAG), *American Association of Geographers* 2021–2022

Invited Reviewer for Academic Journals

ISPRS International Journal of Geo-Information (1)

Sustainability (1)

Transaction in GIS (1)

Professional Memberships

American Association of Geographers

Cartography and Geographic Information Society