

YUE LIN

Assistant Professor
Department of Geography and Geographic Information Science
University of Illinois Urbana-Champaign
linyue@illinois.edu

EDUCATION

- 2023 **Ph.D., Geography**
The Ohio State University, Columbus, OH
Dissertation: Privacy and Utility of Geographic Data: Revealing, Evaluating, and Mitigating the Externalities of Geographic Privacy Protection
- 2022 **M.A., Geography**
The Ohio State University, Columbus, OH
- 2022 **Graduate Certificate in College and University Teaching**
The Ohio State University, Columbus, OH
- 2019 **B.S., Geographic Information Science**
Wuhan University, Wuhan, China

ACADEMIC EMPLOYMENT

Main Appointments

- 2025–present Assistant Professor, Department of Geography and Geographic Information Science, University of Illinois Urbana-Champaign
Director, [Geospatial Computing and Society Lab](#)
Faculty Affiliate, National Center for Supercomputing Applications
Faculty Affiliate, Center for Social and Behavioral Science
Member of Science and Technology Working Group, Institute for Government and Public Affairs
- 2023–2025 Assistant Instructional Professor, Center for Spatial Data Science, University of Chicago

Other Appointments

- 2022–2023 Graduate Research Associate, Center for Urban and Regional Analysis, The Ohio State University
- 2019–2022 Graduate Teaching Associate & Instructor of Record, Department of Geography, The Ohio State University

RESEARCH AND TEACHING INTERESTS

Geographic Information Science; Spatial Data Science; Social Impacts of Algorithmic Systems; Geoprivacy

PUBLICATIONS (MENTEE)

Refereed Journal Articles

- 2026 Otto, P. & **Lin, Y.** Computational Mapping of Historical Built Environments in American Cities from Sanborn Maps: A Case from the Chicago Urban Heritage Project. *Environment and Planning B: Urban Analytics and City Science*, Advance Online Publication.
- 2026 Mostafavisabet, M., Sadvaric, J., Alam, M., **Lin, Y.**, Xiao, N., & Miller, H. Using Sanborn Fire Insurance Maps for Urban Historical Research and Reconstructions: A Review and Case Study. *Journal of Map & Geography Libraries*, Advance Online Publication.
- 2026 **Lin, Y.**, Yeap, Q.F., & Zhang, H. Citizen Science and Geoprivacy: Empirical Analysis of Location Masking in Large-Scale Crowdsensing Networks. *The Professional Geographer*, Advance Online Publication.
- 2026 Zhao, B. & **Lin, Y.** GeoAI Collapse? Ethical Implications of Synthetic Geospatial Data Use. *International Journal of Geographical Information Science*, Advance Online Publication.
- 2025 **Lin, Y.**, Bae, C., & Talen, E. How Would AI Define Neighborhood Boundaries? A Comparison With Human-Crowdsourced Data. *Environment and Planning B: Urban Analytics and City Science*, Advance Online Publication.
- 2025 **Lin, Y.** & Zhao, B. Posthuman Cartography? Rethinking Artificial Intelligence, Cartographic Practices, and Reflexivity. *Annals of the American Association of Geographers*, 115(3), 499–512.
- 2025 **Lin, Y.**, Robinson, C., Yeap, Q.F., & Michael, H. Optimizing Air Pollution Sensing for Social and Environmental Justice. *Applied Geography*, 178, 103606.
- 2025 Xiao, N., Kim, M.J., & **Lin, Y.** A Multistart and Recombination Algorithm for Finding Many Unique Solutions to Spatial Aggregation Problems. *Geoinformatica*, 29, 53–91.
- 2025 **Lin, Y.** & Grekousis, G. Can Geodemographic Clustering Be Fair? Incorporating Social Fairness in Crisp and Fuzzy Approaches Through a Unified Framework. *International Journal of Geographical Information Science*, 39(6), 1270–1295.
- 2024 **Lin, Y.** You Are Where You Live? Evaluating the Racial and Ethnic (Mis)representation in Geodemographic Classification. *Applied Geography*, 165, 103244.
- 2024 **Lin, Y.** Moving Beyond Anonymity: Embracing a Collective Approach to Location Privacy in Data-Intensive Geospatial Analytics. *Environment and Planning F*, 3(1–2), 45–63.
- 2024 **Lin, Y.** & Xiao, N. Exploring the Tradeoff Between Privacy and Utility of Complete-Count Census Data Using a Multiobjective Optimization Approach. *Geographical Analysis*, 56(3), 427–450.
- 2024 **Lin, Y.** Synthetic Population Data for Small Area Estimation in the United States. *Environment and Planning B: Urban Analytics and City Science*, 51(2), 553–562. [[data](#)]
- 2023 **Lin, Y.** & Xiao, N. Generating Small Areal Synthetic Microdata From Public Aggregated Data Using an Optimization Method. *The Professional Geographer*, 75(6), 905–915.
- 2023 **Lin, Y.** Geo-Indistinguishable Masking: Enhancing Privacy Protection in Spatial Point Mapping. *Cartography and Geographic Information Science*, 50(6), 608–623.
- 2023 **Lin, Y.** & Xiao, N. Assessing the Impact of Differential Privacy on Population Uniques in Geographically Aggregated Data: The Case of the 2020 U.S. Census. *Population Research and Policy Review*, 42(5), 81.

- 2023 **Lin, Y.** & Xiao, N. A Computational Framework for Preserving Privacy and Maintaining Utility of Geographically Aggregated Data: A Stochastic Spatial Optimization Approach. *Annals of the American Association of Geographers*, 113(5), 1035–1056.
- 2023 **Lin, Y.**, Li, J., Porr, A., Logan, G., Xiao, N. & Miller, H. Creating Building-Level, Three-Dimensional Digital Models of Historic Urban Neighborhoods From Sanborn Fire Insurance Maps Using Machine Learning. *PLOS ONE*, 18(6), e0286340.
- 2023 **Lin, Y.**, Xu, C., & Wang, J. sandwichr: Spatial Prediction in R Based on Spatial Stratified Heterogeneity. *Transactions in GIS*, 27(5), 1579–1598. [[R package](#)]
- 2022 **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*, 2676(12), 522–534.
- 2021 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.
- 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.**, Wang, J., & Xu, C. Theoretical and Empirical Comparative Evaluations on Measures of Map Association. *Journal of Geographical Systems*, 22, 361–390.
- 2019 **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.

Refereed Conference Proceedings

- 2026 **Lin, Y.** Large Language Models for Understanding Spatial Experience? Bias, Variation, and Persona Effects. *CaGIS Conference*, September 8–11, St. Louis, MO.
- 2026 **Lin, Y.** Rethinking Location Privacy: Cross-Modal Inference in Foundation Models. *I-GUIDE Forum 2026 & Harnessing the Data Revolution (HDR) Ecosystem Conference*, August 3–7, Chicago, IL.
- 2025 Otto, P. & **Lin, Y.** The Roaring ‘20s Project: Mapping Pre-Renewal Built Environments in Chicago From Sanborn Fire Insurance Maps Using a Computational Workflow. *32nd International Cartographic Conference (ICC 2025)*, August 16–22, Vancouver, CA.
- 2024 **Lin, Y.** A Multi-Objective Optimization Approach to Balancing Utility and Equity in Location-Allocation Problems. *CaGIS-UCGIS 2024 Symposium*, June 3–6, Columbus, OH.
- 2023 **Lin, Y.** & Xiao, N. Investigating MAUP Effects on Census Data Using Approximately Equal-Population Aggregations. *12th International Conference on Geographic Information Science (GIScience 2023)*, September 12–15, Leeds, UK.
- 2022 **Lin, Y.** & Xiao, N. Developing Synthetic Individual-Level Population Datasets: The Case of Contextualizing Maps of Privacy-Preserving Census Data. *AutoCarto 2022*, November 2–4, Redlands, CA.

Book Chapters

- Forthcoming **Lin, Y.** & Zhang, H. Privacy, Ethics, and Governance in Generative AI for Geography. In Mai, G., Jain, D., Lunga, D., & Huang, X. (Eds.), *Geography in the Age of Generative AI: Innovations in Mapping, Analysis & Geospatial Applications*. CRC Press.
- 2025 **Lin, Y.** & Kim, J. Pillars of GeoAI in Human Geography. In Huang, X., Wang, S., Wilson, J., & Kedron, P. (Eds.), *GeoAI and Human Geography – The Dawn of a New Spatial Intelligence Era*. Springer Cham.

Other Publications

- 2021 **Lin, Y.** Towards Ethical and Transparent Mobility Data Products: Estimation of Road traffic Metrics from Publicly Available Camera Feeds. *OSU Geography Blog*.
- 2020 Kar, A., Liu, L., **Lin, Y.**, & Xiao, N. Exploring the Spatio-Temporal Dynamics of Socio-Economic Dimensions of the COVID-19 Pandemic: An Interactive Dashboard Approach. *OSU Geography Blog*.

In Submission

- [1] **Lin, Y.** & Xiao, N. Can Large Language Models Replace Human Surveys in Geospatial Studies? A Case of Vague Cognitive Regions.
- [2] **Lin, Y.** & Zhao, B. GeoAI Embracing Place? Earth Embeddings and The Pitfall of Digital Placelessness.
- [3] **Lin, Y.** The Problem of Imbalance in Geospatial Artificial Intelligence.
- [4] **Lin, Y.**, Portelli, R., Vandewalle, R., Morioka, W., DiBiase, D., Foote, K., & Armstrong, M. Critical Reflections on Humans and Geospatial AI: Insights from Interdisciplinary Literature.
- [5] **Lin, Y.**, Muthukumaran, O., & Chen, E. A National Geodemographic Classification for the United States: Integrating Socio-Spatial Fairness.

AWARDS AND HONORS

External

- 2025 NACIS Travel Grants, *North American Cartographic Information Society*
- 2025 Third Place (Team: [Roof Mappers](#)), I-GUIDE Spatial AI Challenge 2024-25, *Institute for Geospatial Understanding through an Integrative Discovery Environment (I-GUIDE)*
- 2024 ICA Scholarship (CaGIS-UCGIS 2024 Symposium), *International Cartographic Association*
- 2024 Honorable Mention, William L. Garrison Award for Best Dissertation in Computational Geography, *American Association of Geographers*
- 2023 CaGIS Doctoral Student Research Scholarship, *Cartography and Geographic Information Society*
- 2023 IJGI Travel Award, *ISPRS International Journal of Geo-Information*
- 2023 Grad WINGS (Women+ in Geospatial Science) Fellow, Training and Retaining Leaders in STEM - Geospatial Sciences (TRELIS-GS) Program, *University Consortium of Geographic Information Science*
- 2022 Community Champion, *University Consortium for Geographic Information Science & NSF I-GUIDE Institute*

- 2022 Third Place Doctoral Student Paper Award, *East Lakes Division of the American Association of Geographers*
- 2022 ICA Scholarship (AutoCarto 2022), *International Cartographic Association*
- 2022 Third Place Student Lightning Talks Award, *University Consortium for Geographic Information Science*
- 2022 Student Travel Award, *Spatial Analytics and Modeling Specialty Group, American Association of Geographers*
- 2021 First Place Doctoral Student Paper Award, *East Lakes Division of the American Association of Geographers*
- 2021 First Place Student Paper Award, *University Consortium for Geographic Information Science*
- 2021 First Place Award, AAG Robert Raskin Student Competition, *Cyberinfrastructure Specialty Group, American Association of Geographers*
- 2020 AAG Kauffman Runner-Up Award for Best Student Paper in Geography & Entrepreneurship, *American Association of Geographers*

Internal

- 2023 E. Willard and Ruby S. Miller Award, *The Ohio State University*
- 2022 Career Development Grant Award, *Council of Graduate Students, The Ohio State University*
- 2022 Fenburr Travel Scholarship for Outstanding Ph.D. Student, *The Ohio State University*
- 2019 Outstanding Bachelor's Thesis Award, *Wuhan University*
- 2019 Outstanding Graduate Award, *Wuhan University*
- 2018 Wang Zhizhuo Innovative Talent Scholarship (First Class), *Wuhan University*
- 2017 Zhonghaida Scholarship (First Class), *Wuhan University*
- 2016–2018 Outstanding Student Award, *Wuhan University*
- 2016 Second Class Scholarship, *Wuhan University*

GRANTS

- 2025 Illinois Geographical Society Research Grant. "Developing a Typology of U.S. Neighborhoods that Accounts for Racial-Ethnic Disparities." \$1,000. Role: PI.
- 2025 University of Chicago, AI Initiative Teaching and Learning Seed Grant. "Fooling Ourselves Less With AI? Exploring AI-Assisted Scientific Reasoning With Students to Improve, Not Diminish, Their Reasoning Skills in Final Projects." \$9,540. Role: Co-PI.
- 2025 University of Chicago, Chicago Studies Experiential Learning Grant. "GIS Practicum." \$2,000. Role: PI.
- 2024 University of Chicago, Chicago Studies Experiential Learning Grant. "GIS Practicum." \$2,500. Role: PI.
- 2024 University of Chicago, Chicago Studies Experiential Learning Grant. "History of Cartography." \$2,500. Role: PI.
- 2020 Ohio Supercomputer Center. "Automatic Vehicle Detection Using Camera Feeds: Exploring Deep Learning Approaches." \$1,000. Role: Co-PI.

PRESENTATIONS († PRESENTING AUTHOR, MENTEE)

Invited Talks

- 2026 GeoAI in Human Geography: Data, Algorithms, and Critical Futures. *Summer 2026 Speaker Series, Center for Urban and Regional Analysis, The Ohio State University*, May 15, Virtual.
- 2025 The Hidden Risks of Synthetic Data in Urban AI. *Urban AI Conversations, Urban AI*, November 27, Virtual.
- 2025 Harnessing OpenStreetMap Data for Roof Material and Shape Prediction (Co-Present With Julian Huang). *I-GUIDE Virtual Consulting Office Webinar Series*, November 12, Virtual.
- 2025 Responsible Spatial Data Science: Privacy, Fairness, and Equity. *Graduate Colloquium, Department of Earth, Atmosphere, and Environment, Northern Illinois University*, September 19, DeKalb, IL.
- 2025 Posthuman Cartography? Rethinking Artificial Intelligence, Cartographic Practices, and Reflexivity. *UCGIS Webinar Series*, May 15, Virtual.
- 2024 Reexamining Geoprivacy: From Anonymity to a Harm-Based Approach. *I-GUIDE Virtual Consulting Office Webinar Series*, June 19, Virtual.
- 2023 Privacy and Utility of Geographic Data: Revealing, Evaluating, and Mitigating the Externalities of Geographic Privacy Protection. *Shijian Forum, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences*, August 10, Beijing, China.
- 2021 Towards Transparent and Ethical Human Mobility Data (Co-Present With Ningchuan Xiao). *Geospatial Fellows Webinar Series, Geospatial Software Institute*, June 28, Virtual.

Invited Panels

- 2026 Challenges and Benefits of Becoming a Convergence Scientist. *I-GUIDE Forum 2026 & Harnessing the Data Revolution (HDR) Ecosystem Conference*, August 3–7, Chicago, IL.
- 2026 Open Source Spatial Data Science: Education. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2026 Generative Geographies: Mapping the Imaginative Power of Generative AI. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2026 AI and Cartography: Limits, Possibilities, and Futures. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2026 Symposium on Spatial AI and Data Science: Frontiers and Applications: Spatial AI and Data Science for Advancing Geographic Research. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2026 Symposium on Spatial AI and Data Science: Frontiers and Applications: UCGIS Humans and Geospatial AI Book Club: Exploring Human Experience, Ethics, and Creativity. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2025 Symposium on Spatial AI & Data Science for Sustainability: Grand Challenges of Spatial AI and Data Science. *The 2025 Annual Meeting of the American Association of Geographers*, March 24–28, Detroit, MI.

Selected Workshops (Fully Funded)

- 2026 CaGIS-National AI Computing Research Resources Workshop. September 11, St. Louis, MO.

- 2026 Workshop on GeoAI for Autonomous Spatial Analysis. June 14–15, College Park, MD.
- 2026 Spatial Data Science Summit (SDSS26). March 15–16, Berkeley, CA.
- 2026 Spatial Analysis Research Center (SPARC) Workshop on “Critical Challenges of GeoAI”. February 5–6, Tempe, AZ.

Papers Presented at Professional Meetings

- 2026 Lin, Y.[†] The Limitations of Large Language Models for Understanding Spatial Cognition and Experience. *CaGIS Conference*, September 8–11, St. Louis, MO.
- 2026 Lin, Y.[†] Rethinking Location Privacy: Cross-Modal Inference in Foundation Models. *I-GUIDE Forum 2026 & Harnessing the Data Revolution (HDR) Ecosystem Conference*, August 3–7, Chicago, IL.
- 2026 Lin, Y.[†] Developing a Typology of U.S. Neighborhoods that Accounts for Racial-Ethnic Disparities. *Annual Meeting of the Illinois Geographical Society*, April 23–26, Oglesby, IL.
- 2026 Lin, Y.[†] & Xiao, N. Can Large Language Models Be Used to Replace Human Subjects in Geographic Surveys? A Case of Vague Cognitive Regions. *The 2026 Annual Meeting of the American Association of Geographers*, March 17–21, San Francisco, CA.
- 2026 Xiao, N.[†] & Lin, Y. Does AI Know Where Central Ohio Is? Assessing LLMs as Replacements for Human Geographic Respondents. *Geometrization of AI Workshop @ Translational Data Analytics Institute, The Ohio State University*, March 11–12, Columbus, OH.
- 2025 Lin, Y.[†], Yeap, Q.F., & Zhang, H. Citizen Science and Geoprivacy: Empirical Analysis of Location Masking in Large-Scale Crowdsensing Networks. *The 6th Spatial Data Science Symposium*, December 4–5, Virtual.
- 2025 Lin, Y.[†] & Zhao, B. Posthuman Cartography? Rethinking Artificial Intelligence, Cartographic Practices, and Reflexivity. *2025 North American Cartographic Information Society Annual Meeting*, October 14–18, Louisville, KY.
- 2025 Otto, P.[†] & Lin, Y. The Roaring ‘20s Project: Mapping Pre-Renewal Built Environments in Chicago From Sanborn Fire Insurance Maps Using a Computational Workflow. *32nd International Cartographic Conference (ICC 2025)*, August 16–22, Vancouver, CA.
- 2025 Lin, Y.[†] You Are Where You Live? Evaluating the Racial and Ethnic (Mis)Representation in Geodemographic Classification. *The 2025 Annual Meeting of the American Association of Geographers*, March 24–28, Detroit, MI.
- 2024 Lin, Y.[†] Geo-Indistinguishable Masking: Enhancing Privacy Protection in Spatial Point Mapping. *The 5th Spatial Data Science Symposium*, October 23–24, Virtual.
- 2024 Lin, Y.[†] A Multi-Objective Optimization Approach to Balancing Utility and Equity in Location-Allocation Problems. *CaGIS-UCGIS 2024 Symposium*, June 3–6, Columbus, OH.
- 2024 Lin, Y.[†] Geo-Indistinguishable Masking: Enhancing Privacy Protection in Spatial Point Mapping. *The 2024 Annual Meeting of the American Association of Geographers*, April 16–20, Honolulu, HI.
- 2023 Xiao, N.[†] & Lin, Y. Investigating MAUP Effects on Census Data Using Approximately Equal-Population Aggregations. *12th International Conference on Geographic Information Science (GIScience 2023)*, September 12–15, Leeds, UK.

- 2023 Lin, Y.[†] & Xiao, N. Exploring the Tradeoff Between Privacy and Utility of Geographic Data Using a Multiobjective Optimization Approach. *The 2023 Annual Meeting of the American Association of Geographers*, March 23–27, Denver, CO.
- 2023 Miller, H.[†], Lin, Y., Li, J., Porr, A., Logan, G. & Xiao, N. Creating High Resolution, Three-Dimensional Digital Models of Historic Urban Neighborhoods From Sanborn Fire Insurance Maps Using Machine Learning. *The 2023 Annual Meeting of the American Association of Geographers*, March 23–27, Denver, CO.
- 2022 Miller, H.[†], Lin, Y., Xiao, N. & Logan, G. Reconstructing Historical Neighborhoods from historic Sanborn Maps Using Machine Learning. *Big Ten GIS Conference 2022*, November 15, Virtual.
- 2022 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. Exploring Tradeoffs Between Privacy and Utility of Geographic Data Using a Multiobjective Optimization Approach. *The 2022 Annual Meeting of the East Lakes Division of the American Association of Geographers*, October 27–28, Muskegon, MI.
- 2022 Lin, Y.[†] & Xiao, N. Spatial Optimization for Protecting Privacy and Preserving Utility of Geographically Aggregated Data. *UCGIS Symposium 2022: GIScience Forward: Meeting the Challenge*, June 7–9, Syracuse, NY.
- 2022 Lin, Y.[†] & Xiao, N. Examining Threats to Location Privacy in Geographically Aggregated Data With the Protection of Differential Privacy. *The 2022 Annual Meeting of the American Association of Geographers*, February 25–March 1, Virtual.
- 2021 Lin, Y.[†], Xu, C., & Wang, J. Sandwich: 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. Traffic Density Estimation From Camera Feeds Using Deep Learning and High Accuracy Regions. *UCGIS Symposium 2021: Advancing GIScience-Informed Policy Solutions*, June 7–11, Virtual.
- 2021 Lin, Y.[†] & Xiao, N. Using Deep Learning and High Accuracy Regions for Vehicle Detection and Traffic Density Estimation From Traffic Camera Feeds. *The 2021 Annual Meeting of the American Association of Geographers*, April 7–11, Virtual.
- 2021 Lin, Y.[†], Kang, M., Wu, Y., Du, Q., & Liu, T. A Deep Learning Architecture for Semantic Address Matching. *The 2021 Annual Meeting of the American Association of Geographers*, April 7–11, Virtual.
- 2020 Lin, Y.[†], Cai, Y., Gong, Y., Kang, M., & Li, L. Extracting Urban Landmarks From Geographical Datasets Using a Random Forests Classifier. *Symposium on AI and Social Good, Carnegie Mellon University*, April 23–24, Virtual.

Campus and Departmental Talks

- 2026 GeoAI collapse? Ethical implications of synthetic geospatial data use. *EngageNCSA Lightning Talks, University of Illinois Urbana-Champaign*, August 26, Urbana, IL.
- 2025 AI Ethics in GGIS Classrooms. *GGIS Annual Ethics Seminar, University of Illinois Urbana-Champaign*, October 31, Urbana, IL.

- 2023 Responsible Spatial Data Science: Privacy and Fairness in Data and Algorithms. *GIS Day, University of Chicago*, November 15, Chicago, IL.
- 2023 Creating Building-Level, Three-Dimensional Digital Models of Historic Urban Neighborhoods From Sanborn Fire Insurance Maps Using Machine Learning. *Center for Spatial Data Science, University of Chicago*, November 13, Chicago, IL.
- 2023 Navigating Tradeoffs Between Privacy and Utility in Geographic Data Releases. *Graduate Colloquium, The Ohio State University*, January 20, Columbus, OH.
- 2021 Does Differential Privacy Protect Unique Geo-Identities? Evaluating Spatial Reidentification Risks in Geographically Aggregated Data Publication Under Differential Privacy. *3C GIS Day(s), The Ohio State University*, November 15–19, Virtual.

Poster Presentations

- 2026 Mei, J.[†], Lin, Y. Evaluation of Satellite Embedding Data for Land Use Analysis Using Machine Learning. *Undergraduate Research Symposium, University of Illinois Urbana-Champaign*, April 30, Urbana, IL.
- 2026 Mei, J.[†], Lin, Y. Evaluation of Satellite Embedding Data for Land Use Analysis Using Machine Learning. *SESE Research Review, University of Illinois Urbana-Champaign*, February 23, Urbana, IL.
- 2025 Nguyen, N.[†], Madani, E.[†], Koschinsky, J., Lin, Y. Adversarial Collaboration as Pedagogy: Enhancing Spatial Reasoning Through Chatbot Dialogue. *DSI Summer Programs 2025: Research Symposium, University of Chicago*, August 8, Chicago, IL.
- 2024 Michael, H.[†], Lin, Y. Optimizing Air Pollution Sensing: An Intersectional Approach to Race, Poverty, and the Smart City. *DSI Summer Programs 2024: Research Symposium, University of Chicago*, August 2, Chicago, IL.
- 2024 Atlas, Y.[†], Lin, Y. Socially Fair Regionalization. *DSI Summer Programs 2024: Research Symposium, University of Chicago*, August 2, Chicago, IL.
- 2024 Mostafavisabet, M.[†], Tokey, A., Alam, M., Lin, Y., Xiao N., & Miller, H. 3D Urban Modeling of Historic Black Neighborhoods Using GIS and Machine Learning: Poindexter Village, Columbus, in 1940. *CaGIS-UCGIS 2024 Symposium*, June 3–6, Columbus, OH.
- 2023 Lin, Y.[†] & Xiao, N. Exploring Tradeoffs Between Privacy and Utility of Geographic Data Using a Multiobjective Optimization Approach. *The 37th Edward F. Hayes Advanced Research Forum, The Ohio State University*, February 24, Columbus, OH.
- 2022 Lin, Y.[†] & Xiao, N. Generating Small Area Synthetic Microdata for Public Use: Towards Accessible and Reproducible Spatial Data Science. *2022 Interdisciplinary Research Fall Forum, The Ohio State University*, November 7–9, Columbus, OH.
- 2022 Lin, Y.[†], Li, J., Porr, A., Logan, G., Xiao, N. & Miller, H. Ghost Neighborhoods of Columbus: Reconstructing Historical Neighborhoods From Sanborn Maps Using Machine Learning. *2022 Interdisciplinary Research Fall Forum, The Ohio State University*, November 7–9, Columbus, OH.
- 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.

TEACHING

University of Illinois Urbana-Champaign

- 2025–present GIS 495: Advanced Spatial Analysis (Autumn 2026)
 GIS 527: Geospatial Artificial Intelligence & Machine Learning (Autumn 2025, Autumn 2026)
 GIS 403: Geographic Information Science and Systems (Spring 2026)

University of Chicago

- 2023–2025 GISC 28100: Introduction to Geocomputation (Winter 2024, Winter 2025)
 GISC 28300: Topics in Geographic Information Science (Autumn 2023)
 GISC 28400: GIScience Practicum (Spring 2024, Spring 2025)
 GISC 28800: History of Cartography (Winter 2024)
 GISC 25900: Introduction to Location Analysis (Winter 2025)
 GISC 27106: Geospatial Data Science for Urban Applications (Autumn 2024)
 SOC 20253: Introduction to Spatial Data Science (Summer 2024, Autumn 2024)
 SOSC 13320: Social Science Inquiry: Spatial Analysis III (Spring 2024, Spring 2025)

The Ohio State University

- 2022 **Instructor of Record**
 GEOG 5201: Geovisualization (Spring 2022)
- 2019–2021 **Graduate Teaching Associate**
 GEOG 4103: Introductory Spatial Data Analysis (Spring 2021)
 GEOG 5201: Geovisualization (Spring 2020, Autumn 2021)
 GEOG 5222: GIS Algorithms and Programming (Autumn 2019)
 GEOG 5226: Spatial Simulation and Modeling in GIS (Autumn 2020)

Guest Lectures

- 2025 GGS 110: Introduction to Geoinformation Technologies, “Next Wave in Geoinformation Technology: GeoAI and Ethical Considerations.” *George Mason University*, November 18.

Others

- 2026 Final Review Jury, LA 234: Site Design Studio, *University of Illinois Urbana-Champaign*, May 1.

MENTORSHIP

Masters Thesis Advising

2025 Ashlynn Wimer, Computational Social Science, University of Chicago. *Thesis: Traffic and the Racialized Built Environment: Applying a New Lens on HOLC 'Redlining' Maps to Understand Traffic Safety Outcomes.*

Ph.D. Dissertation Committee Member

In Progress Mahjabin Kabir Adrita, Geography, University of Illinois Urbana-Champaign
In Progress Fangyi Wang, Geography, University of Illinois Urbana-Champaign (qualifying exam)

Undergraduate Thesis Advising

2026 Angela Li, Geographic Information Science, University of Illinois Urbana-Champaign. *Thesis: A Neighborhood-Scale ESG Assessment of Urban Environments Using Street View Imagery: A Case Study of Chicago Chinatown and Pilsen.*
*Supported by the Office of Undergraduate Research's Research Support Grant.

Other Undergraduate Research Supervision

2026 Janice Mei (Roepke Scholar, UIUC), Oviya Muthukumaran (Roepke Scholar, UIUC), Emma Chen (NCSA SPIN Intern, UIUC)
2025 Enrico Madani (DSI Summer Lab RA, UChicago), Na Nguyen (DSI Summer Lab RA, UChicago), Qian Fang Yeap (SISRM RA, UChicago)
2024 Yassir Atlas (DSI Summer Lab RA, UChicago), Marcus Kuo (SISRM RA, UChicago), Helen Michael (DSI Summer Lab RA, UChicago), Qian Fang Yeap (SISRM RA, UChicago)

Mentoring Programs

2026 Faculty Mentor, Students Pushing INnovation (SPIN) Summer Internship Program, National Center for Supercomputing Applications, *University of Illinois Urbana-Champaign*
2025 Mentor, NACIS Mentor Program, *North American Cartographic Information Society*
2024 & 2025 Faculty Mentor, Data Science Institute Summer Lab Program, *University of Chicago*
2024 Faculty Partner, Summer Institute in Social Research Methods, *University of Chicago*
2023–2024 Mentor, Women+ in Geospatial Mentorship Programme, *Women+ in Geospatial*
2023 Research Mentor, Research Mentoring Sessions, The 2023 Annual Meeting of the American Association of Geographers, *American Association of Geographers*

SERVICE

Journal Boards and Editorships

2026–2029 Editorial Board Member, *Annals of the American Association of Geographers*
2026–2028 Early Career Editorial Board Member, *Digital Geography and Society*

Offices Held in Professional Societies

2024–2028	Board of Directors, Cartography and Geographic Information Society
2022–2023	Education Committee, <i>University Consortium for Geographic Information Science</i>
2021–2022	Award Committee, Graduate Student Affinity Group, <i>American Association of Geographers</i>

Reviewer

Grant Panels: NSF Directorate for Social, Behavioral and Economic Sciences (2026)

Journals: Annals of the American Association of Geographers (2), Annals of GIS (1), Applied Geography (1), Cartography and Geographic Information Science (4), China Population and Development Studies (1), Computers, Environment and Urban Systems (1), Computational Urban Science (1), Environment and Planning B: Urban Analytics and City Science (2), Environmetrics (1), Geographical Analysis (2), GeoHealth (1), Geo-spatial Information Science (1), Global Environmental Politics (1), ISPRS International Journal of Geo-Information (5), ISPRS Open Journal of Photogrammetry and Remote Sensing (1), International Journal of Digital Earth (2), International Journal of Geographical Information Science (4), International Journal of Human-Computer Interaction (1), Journal of Human Behavior in the Social Environment (1), Journal of Spatial Information Science (1), Journal of Spatial Science (1), PLOS ONE (1), Scientific Data (1), SoftwareX (1), The Professional Geographer (3), Transactions in GIS (5), Urban Informatics (1)

Conferences: ACM SIGSPATIAL (2026), CaGIS Conference (2026), CaGIS-UCGIS Symposium (2024), GIScience (2023)

Book Chapters: Springer Nature (2)

Conference and Workshop Organization

2026	Program Committee, <i>IEEE International Conference on Big Data</i> , December 14–17, Phoenix, AZ.
2026	Program Committee, <i>The 34th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2026) - Application Track</i> , November 3–6, Riverside, CA.
2026	Program Committee, <i>CaGIS Conference</i> , September 8–11, St. Louis, MO.
2026	<i>The 2026 Annual Meeting of the American Association of Geographers</i> , March 17–21, San Francisco, CA. Session Chair & Co-Organizer, “GISER Symposium: AI & Ethics in Geography Education.” Session Co-Organizer, “GISER Symposium: Ethics in GIScience.” Session Co-Organizer, “GeoAI and Deep Learning Symposium: AI Ethics and Spatial Equity.” Session Co-Organizer, “Symposium on Spatial AI and Data Science: Frontiers and Applications: UCGIS Humans and Geospatial AI Book Club: Exploring Human Experience, Ethics, and Creativity.” Organizing Committee, “GISER Symposium: GIScience for Human Experience and Responsibility.”
2025	Session Co-Organizer, “Location Privacy in the Digital Society.” <i>The 6th Spatial Data Science Symposium</i> , December 4–5, virtual.
2025	Session Chair & Co-Organizer, “GeoAI and Deep Learning Symposium: Spatial Data Science and GeoAI Ethics: Bridging Research and Education.” <i>The 2025 Annual Meeting of the American Association of Geographers</i> , March 24–28, Detroit, MI.

- 2024 Program Committee, *CaGIS-UCGIS 2024 Symposium*, June 3–6, Columbus, OH.
- 2024 *The 2024 Annual Meeting of the American Association of Geographers*, April 16–20, Honolulu, HI.
 Session Co-Chair & Co-Organizer, “GeoAI and Deep Learning Symposium - Responsible GeoAI I: Privacy and Fairness.”
 Session Co-Chair & Co-Organizer, “GeoAI and Deep Learning Symposium - Responsible GeoAI II: Justice and Accuracy.”
- 2022 Student Assistant, *AutoCarto 2022, The 24th International Research Symposium on Cartography and GIScience*, November 2–4, Redlands, CA.
- 2022 Co-Chair, *AAG 2022 Summer Series Graduate Forums*, June 14–August 9, virtual.

Serving on University Committees

- 2026–2027 Courses and Curricula Committee, College of Liberal Arts & Sciences, *University of Illinois Urbana-Champaign*
- 2026 Capricious Grading Committee, Department of Geography & Geographic Information Science, *University of Illinois Urbana-Champaign*
- 2020–2021 Ph.D. Representative on Graduate Studies Committee, Graduate Geography Organization, *The Ohio State University*

Other University and/or Campus Service

- 2026 Poster Judge, Undergraduate Research Symposium, *University of Illinois Urbana-Champaign*
- 2026 Poster Judge, SESE Research Review, *University of Illinois Urbana-Champaign*

Public Engagement

- 2024 Organizer, “Mapping Chicago’s Past and Present”. *Chicago History Museum*. May 11.

Professional Memberships

- 2020–present American Association of Geographers
- 2022–present Cartography and Geographic Information Society
- 2024–present North American Cartographic Information Society
- 2025–present ACM Special Interest Group on Spatial Information
- 2025–2026 Illinois Geographical Society