

Hongyu Zhang

LECTURER

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Education

Ph.D. in Geography

McGill University

Place-Based Privacy: Understanding Attitudes and Behaviours Across China and Beyond

2024

M.Sc. in Geography

Western University

Quality Assessment of the Canadian OpenStreetMap Road Networks

2017

B.E.S. in Geomatics

University of Waterloo

2015

Academic Appointments

- 2024-present: Faculty Lecturer, Department of Earth, Geographic, and Climate Sciences, University of Massachusetts Amherst
- 2023: Sessional Lecturer, Department of Geography, Planning and Environment, Concordia University
- 2022: Sessional Lecturer, Department of Geography, McGill University

Research Areas

Research Focus

Data Ethics, GIScience, GeoAI

Publications

Work in Progress

- Zhang, H., Brady, D. Under review. "Contesting Algorithmic Imaginaries at the Interface: 'Crying Poor' and User Resistance to Big Data-Enabled Price Discrimination in China's Platform Economy." *Global Media and China*.
- Zhang, H., Lee, A. Under review. "Spatial Inequality in Young Adult Indebtedness in the United States." *Finance and Space*.
- Zhang, J., Zhang, H. Under review. "Beyond Boundaries: Integrating Mixed Methods for Cognitive Region and Place Representation." *Spatial Cognition and Computation*.
- Lin, Y., Zhang, H. Under review. "Privacy, Ethics, and Governance in Generative AI for Geography." *Generative AI in Geography*.

Refereed Journal Articles

- Lin, Y., Yeap, Q. F., Zhang, H. (2026). "Citizen Science and Geoprivacy: Empirical Analysis of Location Masking in Crowdsensing Networks." *The Professional Geographer*. <https://doi.org/10.1080/00330124.2026.2656680>
- Zhang, H., McKenzie, G. (2026). "Polarized Geoprivacy Attitudes on Chinese Social Media: A Case Study of Weibo." *Digital Geography and Society*. <https://doi.org/10.1016/j.diggeo.2026.100170>
- Zhang, H., McKenzie, G. (2024). "Geoprivacy Knowledge, Attitudes, and Behaviors in Contemporary China." *Geographical Review*. <https://doi.org/10.1080/00167428.2024.2422873>
- Zhang, H., McKenzie, G. (2023). "Rehumanize Geoprivacy: From Disclosure Control to Human Perception." *GeoJournal*. <https://doi.org/10.1007/s10708-022-10598-4>
- McKenzie, G., Romm, D., Zhang, H., Brunila, M. (2022). "PrivyTo: A Privacy-Preserving Location-Sharing Platform." *Transactions in GIS*. <https://doi.org/10.1111/tgis.12924>
- Zhang, H., Malczewski, J. (2018). "Accuracy Evaluation of the Canadian OpenStreetMap Road Networks." *International Journal of Geospatial and Environmental Research*. <https://ijger-ojs-txstate.tdl.org/ijger/article/view/69>

Papers in Refereed Conference Proceedings

- McKenzie, G., Zhang, H. (2023). "Platial k -Anonymity: Improving Location Anonymity Through Temporal Popularity Signatures." *International Conference on Geographic Information Science (GIScience)*. **Best Full Paper Award**. <https://doi.org/10.4230/LIPIcs.GIScience.2023.9>

Book Chapters

- **Zhang, H.**, McKenzie, G., Kim, J. (2026). “Generative AI and the Future of GIScience Education.” *Geography According to Foundation Models*. <https://doi.org/10.3233/FAIA260479>
- McKenzie, G., **Zhang, H.**, Gambs, S. (2023). “Privacy and Ethics in GeoAI.” *Handbook of Geospatial Artificial Intelligence*. CRC Press. <https://doi.org/10.1201/9781003308423>
- **Zhang, H.**, Malczewski, J. (2017). “Quality Evaluation of Volunteered Geographic Information.” *Volunteered Geographic Information and the Future of Geospatial Data*. IGI Global. <https://doi.org/10.4018/978-1-5225-2446-5.ch002>

Refereed Short Papers

- **Zhang, H.** (2025). “Vector-Based Super-Resolution Mapping with the Population Dynamics Foundation Model.” *Abstracts of the International Cartographic Conference*. <https://doi.org/10.5194/ica-abs-10-321-2025>
- **Zhang, H.**, McKenzie, G. (2025). “Evaluating Spatial Dependency in Regional Similarities of the Population Dynamics Foundation Model.” *Association of Geographic Information Laboratories in Europe Conference (AGILE)*. <https://doi.org/10.5281/zenodo.15335931>
- **Zhang, H.** (2023). “Place-Based Privacy: A Humanistic Reflection on Solitude and Anonymity.” *Conference on Spatial Knowledge and Information Canada*. <https://osf.io/adfxv>
- **Zhang, H.**, McKenzie, G. (2023). “Towards Place-Based Privacy: Challenges and Opportunities in the Smart World.” *IEEE International Symposium on Technology and Society (ISTAS)*. <https://doi.org/10.1109/ISTAS55053.2022.10227114>
- Romm, D., **Zhang, H.**, Verma, P., McKenzie, G., Chen, E. (2021). “Data Horror: Mapping (Spatial) Data Privacy Violations onto a Cognitive Account of Horror.” *Spatial Data Science Symposium (SDSS)*. <https://doi.org/10.25436/E23S3T>

Non-refereed Publications

LETTERS TO THE EDITOR

- **Zhang, H.** (2023). “Reimagining GIScience Education for Enhanced Employability.” *Journal of Spatial Information Science*. <https://doi.org/10.5311/JOSIS.2023.27.307>

REPORTS

- **Zhang, H.**, McKenzie, G., Tomko, M., Egorova, E., Kim, J. (2022). “Report From the First Workshop on Cyber Ethics in Platial Research.” *Proceedings of the 3rd International Symposium on Platial Information Science (PLATIAL)*. <https://doi.org/10.5281/zenodo.6413003>

NEWS ARTICLES

- **Zhang, H.** (2020). “With Coronavirus Containment Efforts, What Are the Privacy Rights of Patients?” *The Conversation*. <https://thecoconversation.com/with-coronavirus-containment-effortswat-are-the-privacy-rights-of-patients-131752>

BOOK REVIEWS

- **Zhang, H.** (2019). “Using Geodata & Geolocation in the Social Sciences: Mapping Our Connected World by David Abernathy, Sage Publishing, London, 2017, 327 pp., paper US\$50.00 (ISBN 978-1473908185).” *The Canadian Geographer*. <https://doi.org/10.1111/cag.12532>

Internal Grants

University of Massachusetts Amherst

- **Zhang, H.** (PI). “Advanced Geographic Information Science.” Open Education Initiative Grant, University Libraries. \$6,250. 2026.
- **Zhang, H.** (Co-I). “Fostering a Geospatial Governance Group.” Mutual Mentoring Grant, Office of Faculty Development. \$5,998. 2026.
- **Zhang, H.** (PI). “Ethical GIS in the Algorithmic Society.” Community, Democracy and Dialogue Grant, Office of Equity and Inclusion. \$2,000. 2024.
- **Zhang, H.** (PI). “Sustainable GeoAI.” Faculty Research Grant, Office of Research Development. \$1,000. 2024-2025.
- **Zhang, H.** (PI). “Generative AI in GIScience Education.” Flex Grant, Center for Teaching & Learning. \$500. 2024-2025.

Awards & Honors

- 2024: **Outstanding Dissertation Award**, Digital Geographies Specialty Group, American Association of Geographers
- 2024: **First Place, Saarinen Paper Competition**, Environmental Perception and Behavioral Geography Specialty Group, American Association of Geographers
- 2024: **GREAT Travel Award**, McGill University
- 2023: **Best Full Paper Award**, GIScience’23
- 2023: **Science Education Conference Award**, McGill University
- 2023: **Science Graduate Student Travel Award**, McGill University
- 2023: **McGill–Glasgow Travel Award**, McGill University

- 2022: **CDSI Graduate Award**, Computational and Data Systems Initiative, McGill University
- 2021: **GIC Graduate Award**, Geographic Information Centre, McGill University
- 2021: **Doctoral Research Scholarship**, Fonds de Recherche du Québec (FRQSC)
- 2019: **Rathlyn GIS Award**, McGill University
- 2019: **Graduate Excellence Award**, McGill University
- 2017: **Academic Achievement Scholarship**, PSAC Local 610
- 2017: **Travel Subsidy**, Western University
- 2017: **Graduate Research Awards Fund**, Western University
- 2017: **Student Travel Award**, Spatial Analysis and Modeling Specialty Group, American Association of Geographers
- 2016: **Best Master's Paper**, Canadian Association of Geographers Ontario Division (CAGONT)
- 2015: **Western Graduate Research Scholarship**, Western University
- 2015: **Dean's Honours**, University of Waterloo
- 2013: **Undergraduate Writing Award**, Renison University College
- 2012: **President's Scholarship**, University of Waterloo
- 2012: **Entrance Scholarship**, University of Waterloo

Teaching

Courses at UMass Amherst

- GEOGRAPH 590A: Advanced Geographic Information Science (Spring 2027)
- ECO 637: Spatial Data Analysis in R (Fall 2026)
- GEOGRAPH 696: Independent Study (Fall 2026)
- GEOGRAPH 585: Introduction to GIS (Summer 2025)
- GEOGRAPH 592B: GIS Seminar (Spring 2026)
- NRC 440/ECO 640: Python for ArcGIS (Spring 2027, Spring 2026, Spring 2025)
- NRC 588/GEOGRAPH 588: Web GIS (Spring 2027, Spring 2026, Spring 2025)
- GEOGRAPH 482/682: GIS Programming (Fall 2026, Fall 2025, Fall 2024)
- GEOGRAPH 452/652: Cartography and Geovisualization (Fall 2026, Fall 2025, Fall 2024)

Courses at Concordia University

- GEOG 264: Programming for Environmental Sciences (with R) (Fall 2023)

Courses at McGill University

- GEOG 202: Statistics and Spatial Analysis (Fall 2022)

Mentoring

Current Students

- Weijia Wang: M.S.: Ethical GeoAI

Talks

Invited Talks

- "Challenges of Integrating Generative AI into GIScience Education." *Workshop on GeoAI for Autonomous Spatial Analysis*, University of Maryland. College Park, MD. June 2026.
- "Understanding Geoprivacy Attitudes and Behaviors in China and the United States." *GIS Day*, McGill University. Montreal, QC. November 2025.
- "Towards place-based privacy: Challenges and opportunities in the *smart* world." *GIS Day*, McGill University. Montreal, QC. November 2022.

Conference Presentations

- "Spatial Inequality in Young Adult Indebtedness in the United States." *American Association of Geographers Annual Meeting*. San Francisco, CA. March 2026.
- "Vector-Based Super-Resolution Mapping with the Population Dynamics Foundation Model." *International Cartographic Conference (ICC)*. Vancouver, BC. August 2025.
- "Evaluating Spatial Dependency in Regional Similarities of the Population Dynamics Foundation Model." *Association of Geographic Information Laboratories in Europe Conference (AGILE) Conference*. Dresden, Germany. June 2025.

- “Generative AI and the Future of GIScience Education.” *American Association of Geographers Annual Meeting*. Detroit, MI. March 2025.
- “Location privacy knowledge, attitudes, and behaviours in contemporary China.” *American Association of Geographers Annual Meeting*. Honolulu, HI. April 2024.
- “A spatial-temporal public opinion analysis of IP location disclosure on Chinese social media platforms using Weibo data.” *American Association of Geographers Annual Meeting*. Denver, CO. March 2023.
- “Place-based privacy: A humanistic reflection on solitude and anonymity.” *Conference on Spatial Knowledge and Information Canada*. Banff, AB. February 2023.
- “Towards Place-Based Privacy: Challenges and Opportunities in the Smart World.” *IEEE International Symposium on Technology and Society (ISTAS)*. Hong Kong SAR, China. November 2022.
- “Cyber Ethics in Platial Research.” *International Symposium on Platial Information Science*. Online. December 2021.
- “Exploring the Intrinsic Quality Assessment Method of OpenStreetMap.” *Canadian Association of Geographers Annual Meeting*. Toronto, ON. May 2017.
- “Evaluating the Quality of the Canadian OpenStreetMap Road Networks.” *American Association of Geographers Annual Meeting*. Boston, MA. April 2017.
- “Quality Evaluation of Volunteered Geographic Information.” *Canadian Association of Geographers Ontario Division Annual Meeting*. Waterloo, ON. October 2016. **Best Master’s Paper.**

Workshop Hosts

- “Python for Data Analysis.” McGill GIC Workshop. April 2021.
- “Data Visualization in Python.” McGill GIC Workshop. April 2021.
- “Introduction to Git.” McGill GIC & CDSI Workshop. October 2020 – February 2022.
- “Introduction to Python.” McGill GIC & CDSI Workshop. October 2020 – February 2022.
- “Introduction to PostgreSQL.” McGill GIC & CDSI Workshop. October 2020 – February 2022.

Services

Departmental Services

- 2024-present: Curriculum Committee Member, Department of Earth, Geographic, and Climate Sciences, UMass Amherst

Professional Services

- 2026-present: Research Committee Member, University Consortium for Geographic Information Science (UCGIS)
- 2026-present: At-Large Board Member, Digital Geographies Specialty Group
- 2025-present: Academic Director, Environmental Perception and Behavioral Geography Specialty Group

Editorial Activities

- 2026-present: Early Career Editorial Board Member, *Digital Geography and Society*

Conference Activities

CONFERENCE ORGANIZERS

- 2026: GIScience for Human Experience and Responsibility (GISER), Symposium at AAG 2026, San Francisco, CA
- 2025: Ethical GIS in the Algorithmic Society, Workshop, Amherst, MA
- 2026: AI Ethics and Spatial Equity (paper); Ethics in GIScience (panel); AI & Ethics in GIS Education (paper), AAG 2026, San Francisco, CA
- 2025: Spatial Analysis for Social Good (virtual); Spatial Data Science and GeoAI Ethics: Bridging Research and Education (hybrid), AAG 2025, Detroit, MI
- 2025: Locatio Privacy in the Digital Society, SDSS 2025, Online
- 2024: Geoprivacy Challenges and Solutions in the Digital Society, SDSS 2024, Online
- 2024: Responsible GeoAI I: Privacy and Fairness; Responsible GeoAI II: Justice and Accuracy, AAG 2024, Honolulu, HI
- 2023: Geoprivacy and Ethics in Geospatial Data and GeoAI, AAG 2023, Denver, CO
- 2021: Cyber Ethics in Platial Research, Platial’21, Online
- 2021: Geospatial Data Science, CAG 2021, Online

PROGRAM COMMITTEE MEMBERS

- 2026: Spring Northeast Arc Users Group (NEARC) Conference, Amherst, MA
- 2026: AAAI ICWSM International Workshop on Cyber Social Threats (CySoc’26), Los Angeles, CA
- 2025: The Sixth Spatial Data Science Symposium (SDSS 2025), Online
- 2025: ACM SIGSPATIAL Workshop on Human-Centered Geospatial Computing (GeoHCC’25), Minneapolis, MN
- 2025: AAAI ICWSM International Workshop on Cyber Social Threats (CySoc’25), Copenhagen, Denmark

- 2024: ACM SIGSPATIAL Workshop on Location-based Recommendations, Geosocial Networks and Geoadvertising (LocalRec'24), Atlanta, GA
- 2024: The Fifth Spatial Data Science Symposium (SDSS 2024), Online

Peer Review Activities

- 2026: *Scientific Reports*, Nature
- 2026: *Transactions in GIS*, Wiley
- 2026: *Humanities and Social Sciences Communications*, Springer Nature
- 2025: *Urban Informatics*, Springer Nature
- 2025: *Scientific Reports*, Nature
- 2025: *International Conference on Geographic Information Science (GIScience'25)*, —
- 2024: *Scientific Data*, Nature
- 2024: *International Journal of Geographical Information Science*, Taylor & Francis
- 2023: *Transactions in GIS*, Wiley
- 2023: *International Symposium on Platial Information Science*, —
- 2023: *Area*, Wiley
- 2023: *Digital Society*, Springer Nature
- 2019: *Big Earth Data*, Taylor & Francis
- 2018: *International Symposium on Open Collaboration (OpenSym'18)*, ACM

Memberships

- American Association of Geographers (AAG)
- Canadian Association of Geographers (CAG)