

# Zhiyuan Yao

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## EDUCATION

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|----------------------------------------------------------------------|----------------------------------------------------------|-----------|
| ➤ University of Cincinnati                                           | Ph.D. in Geographical Information Sciences               | 2015-2020 |
| ➤ Guangzhou Institute of Geochemistry<br>Chinese Academy of Sciences | M.S. in Geography and Geographical Information Sciences, | 2011-2014 |
| ➤ Shandong Normal University                                         | B.S. in Geographical Information Sciences                | 2007-2011 |

## PROFESSIONAL EXPERIENCES

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- Assistant Professor, Department of Geography and Planning, Appalachian State University, 2024/08 -
  - Institute of Transportation Studies, UCLA, 2022/01 – 2024/07
  - Spatial Data Scientist, Data Science Center, UCLA, 2020/05 – 2024/07
  - GIS Consultant, University of Cincinnati Libraries, 2018/5 – 2020/4
  - Research Assistant, Health Geography and Disease Modeling Lab, Department of Geography and GIS, University of Cincinnati, 2020/05 - 2020/12
  - Research Assistant, Spatial Temporal Analysis and Modelling (STAM), Department of Geography and GIS, University of Cincinnati, 2015/08 - 2020/04
  - Research Assistant, Community Activity Research Exposure Study (CARES), Department of Environmental Health, University of Kentucky, 2018/05 - 2020/10

## PUBLICATIONS

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- Quattro, C., & Yao, Z. (2025). Evaluating public transportation through a caregivers' lens. *Cities & Health*, 1-16.
  - Wang, H., Wang, Z., Qu, S., Que, X., & Yao, Z. (2025). Unraveling the link between riparian vegetation health and drought severity. *Ecological Indicators*, 178, 113979.
  - Yao, Z., Blumenberg, E., & Wander, M. (2024). Sex Differences in Child Care Travel. *Transport Findings*.
  - Blumenberg, E., Wander, M., & Yao, Z. (2024). Decisions & distance: The relationship between child care access and child care travel. *Journal of Transport Geography*, 114, 103756.
  - Blumenberg, E., Yao, Z. \*, & Wander, M. (2023). Variation in child care access across neighborhood types: A two-step floating catchment area (2SFCA) approach. *Applied Geography*, 158, 103054.

- Li, J. \*, Kim, C., Cuadros, D., **Yao, Z.**, & Jia, P. (2023). Changes of Grocery Shopping Frequencies and Associations with Food Deserts during the COVID-19 Pandemic in the United States. *Journal of Urban Health*, 1-12.
- **Yao, Z.**, & Kim, C. \* (2022). Analyzing the multiscale patterns of jobs-housing balance and employment self-containment by different income groups using LEHD data: A case study in the Cincinnati metropolitan area. *Computers, Environment and Urban Systems*, 96, 101851
- **Yao, Z.**, & Kim, C. \* (2019). The Changes of Urban Structure and Commuting: An Application to Metropolitan Statistical Areas in the United States. *International Regional Science Review*, 42(1), 3-30.

## CONFERENCE PROCEEDINGS

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- Siqqiq, F., **Yao, Z.** & Blumenberg, E. (2026). Sex Differences in Activity Space Size: The Role of the Built Environment Evidence from California. Annual Meeting of American Association of Geographers, San Francisco, 2026
- **Yao, Z.**, (2025). Riding Through Change: Gender-Specific Trends in Bike Share Pre- and Post-COVID-19. Annual Meeting of American Association of Geographers, Detroit, MI, 2025
- Siqqiq, F., Blumenberg, E., & **Yao, Z.** (2024). Gender, Travel, and Activity Space. Annual Meeting of Association of Collegiate Schools of Planning, Seattle, WA, 2024
- **Yao, Z.**, Blumenberg, E., & Wander, M. (2024) Variation in child care access across neighborhood types: A two-step floating catchment area (2SFCA) approach. *Annual Meeting of American Association of Geographers*, Honolulu, HI, 2024
- **Yao, Z.**, & Kim, C. (2023). Analyzing the multiscale patterns of jobs-housing balance and employment self-containment by different income groups using LEHD data: A case study in the Cincinnati metropolitan area. *Annual Meeting of American Association of Geographers*, online, 2023
- **Yao, Z.**, & Kim, C. (2021). Do people working in suburban areas experience less traffic congestion? An empirical study of the OKI region. *Annual Meeting of American Association of Geographers*, online, 2021.
- **Yao, Z.**, & Kim, C. (2019). Is a jobs-housing balance possible to reduce commuting? An empirical study of the Cincinnati Metropolitan Area based on LEHD data. *American Association of Geographers Annual Meeting*, Washington D.C., 2019.
- **Yao, Z.**, & Kim, C. (2017). The changes of urban structures and their effect on commuting patterns. *American Association of Geographers Annual Meeting*, Boston, 2017.

- **Yao, Z., & Kim, C. (2016).** Measuring spatial structure of American metropolitan statistical areas and an application to commuting time. *63rd Annual North American Meetings of the Regional Science Association International*. Minneapolis, MN.

## GRANTS, AWARDS, & HONORS

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- **Cratis D. Williams School of Graduate Studies, GeoAI for Road Network Resilience in Flood and Winter Weather Conditions, \$14,000, PI,** Fall 2026.
- **CAS Summer Research Grant, Rural EV Charging Accessibility Through Data-Driven Optimization, \$5000, PI,** Appalachian State University, Summer 2026.
- **University Research Council Grant, Data-Driven Framework for Equitable EV Charging Infrastructure Optimization in Rural North Carolina, \$5000, PI,** Appalachian State University, Fall 2025.
- **Chancellor's Innovation Grant, Resilience through better flood mapping, \$25,000, Co-PI,** Appalachian State University, Summer 2025.
- **CAS Summer Research Grant, Assessing Public Transit Transfer Performance in Boone, NC, \$5000, PI,** Appalachian State University, Summer 2025
- **CETLSS Teaching Quality Framework Grant, Building a New Online Graduate GIS Certificate Program, \$2000, PI,** Appalachian State University, Spring 2025
- **Minnesota Institute for Leadership, \$2000,** University of Minnesota, 2024/07
- **LAUC Research & Professional Development Grant, \$4988, PI,** Librarians Association of the University of California, 2024 – 2025
- **Laura Bush 21<sup>st</sup> Century Librarian Program, \$230,000, Program Coordinator,** Institute of Museum and Library Service, 2022/08
- **LAU-LA Mini Grant, \$500,** UCLA Library, 2020, 2021, 2023, & 2024
- **AAG-UIUC Research Grant, \$5000,** University of Illinois at Urbana-Champaign, 2019/07
- **Excellent Student Tuition and Insurance Grant, \$5000,** College of Arts and Sciences, University of Cincinnati, 2018 - 2020

## RESEARCH UNDER PREPARATION

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- The scale effect of activity space on the patterns of grocery shopping in Great Twin Cities in Minnesota

## TEACHING EXPERIENCES

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### ▣ Appalachian State University

- GHY5530 Transportation GIS
- GHY4812/5812 GIS Analysis and Modelling
- GHY 5815 GIS Programming and Database
- GHY4812/5812 GIS Analysis and Modelling
- GHY4816/5816 Environmental GeoScience
- GHY5800 Advanced Quantitative Analysis

### ▣ University of California, Los Angeles

- **Carpentries Instructor (Since 2021/04)**
  - [R for Reproducible Scientific Analysis](#)
  - [Programming with Python](#)
  - [Plotting and Programming in Python](#)
  - [Geospatial analysis with R](#)
  - [Mapping and analyzing with QGIS](#)
- **Guest Lecture, Fall 2020 & Winter 2021**
  - DH199, Mapping racism, Urban design, and Thermal Inequality, Institute for Society and Genetics & Department of History, UCLA
  - EPS 1111, Stratigraphic and Field Geology, Department of Earth, Planetary, and Space Sciences, UCLA
- EH207, Introduction to GIS, Fielding School of Public Health, UCLA

### ▣ University of Cincinnati

- **Instructor**
  - GEOG6081C/5181C, Introduction to GIS, Department of Geography and GIS, University of Cincinnati
  - GEOG1001, Physical Geography, Department of Geography and GIS, University of Cincinnati
- **Teaching Assistant (2015-2018)**
  - GEOG5171C, Introduction to GIS, Department of Geography and GIS, University of Cincinnati
  - GEOG1040, Earth from Space, Department of Geography and GIS, University of Cincinnati
  - GEOG6091C, Advanced GIS, Department of Geography and GIS, University of Cincinnati
  - GEOG6085C, Spatial Statistics II, Department of Geography and GIS, University of Cincinnati

## MEMBERS & AFFILIATION

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- American Association of Geographers, 2016 – 2025

- [The Carpentries](#) Certified Instructor, 2021/04 - present
- UC GIS Leadership Committee, Committee member, 2020/6 – present
- Graduate Student Association, President, Department of Geography, University of Cincinnati, 2017 – 2018
- Graduate Student Leadership, Monitor, Chinese Academy of Sciences, 2011 - 2012

## RELATED SKILLS

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| ➤ <b>Software</b>       | ArcGIS Pro, QGIS, SPSS, Visual Studio, R Studio                                                                                                                             |
| ➤ <b>Programming</b>    | Python (GIS modeling), R (Statistical analysis).                                                                                                                            |
| ➤ <b>Data Analysis</b>  | Spatial Analysis, Geostatistical Analysis (Network analysis and Accessibility analysis), Machine Learning Modeling, Urban Structures and Commuting/Travel Pattern Analysis. |
| ➤ <b>GIS Techniques</b> | Projections; Geocoding; Creating Professional maps.                                                                                                                         |