Ziqi Li Ph.D.

Aug 2020

Department of Geography and Geographic Information Science
University of Illinois, Urbana-Champaign, United States
Phone: +1 602.329.4926
Email: ziqi@illinois.edu
Website: https://sites.google.com/view/ziqi-li

Research and Teaching Interests

- Geographic Information Science
- Spatial Statistics/Analysis
- Urban Analytics
- Spatial Data Science
- Health Geography
- Remote Sensing

Employment

2020 – now	Visiting Assiatant Professor, University of Illinois
2016 – 2020	Graduate Teaching Associate, Arizona State University
2015 – 2016	Short Term Consultant, The World Bank, D.C.
2014 – 2016	Graduate Research Assistant, George Washington University

Education

2020 **Ph.D. in Geography**
School of Geographical Sciences & Urban Planning, Arizona State University
Dissertation: Multiscale Geographically Weighted Regression: Computation, Inference and Application
Committee: Dr. A. Stewart Fotheringham (chair), Dr. Michael F. Goodchild, and Dr. Wenwen Li

2016 **M.A. in geography**, George Washington University

2014 **B.S. in Geomatics & Minor in Computer Science**, University of Waterloo, Canada

2014 **B.Eng. in Remote Sensing**, Wuhan University, China

Publications

Peer-reviewed publications

2020 Fotheringham, A. S., **Li, Z.**, & Wolf, L. J. (forthcoming). Scale, context and heterogeneity: A spatial analytical perspective on the 2016 US presidential election. *Annals of the American Association of Geographers.*

Li, Z. Fotheringham, A. S., Oshan, T. & Wolf, L. J. Measuring bandwidth uncertainty in multiscale geographically weighted regression using Akaike weights. *Annals of the American Association of Geographers.* 110(5), 1500-1520. **First-place of the John Odland Award, AAG 2020.**

Li, Z. & Fotheringham, A. S. Computational improvements to multi-scale geographically weighted regression. *International Journal of Geographical Information Science*. 34(7), 1378-1397.

Yu, H., Fotheringham, A. S., **Li, Z.**, Oshan, T., & Wolf, L. J. On the measurement bias of geographically weighted regression models. *Spatial Statistics*. 38, 100453.

2019 Fotheringham, A.S. Han, Y., & **Li, Z.** Examining the influences of ambient air quality in China's cities using multi-scale geographically weighted regression. *Transactions in GIS*. 23(6), 1444-1464.

Oshan, T., **Li, Z.**, Kang, W., Wolf, L. J., & Fotheringham, A. S. mgwr: A Python implementation of multi-scale geographically weighted regression for investigating process spatial heterogeneity and scale. *ISPRS International Journal of Geo-Information*. 8(6), 286.

Li, Z., Fotheringham, A. S., Li, W., & Oshan, T. Fast Geographically Weighted Regression (FastGWR): a scalable algorithm to investigate spatial process heterogeneity in millions of observations. *International Journal of Geographical Information Science*, 33(1), 155-175.

Oshan, T., Wolf, L. J., Fotheringham, A. S., Kang, W., **Li, Z.**, Yu, H. A comment on geographically weighted regression with parameter-specific distance metrics. *International Journal of Geographical Information Science*. 33(7), 1289-1299.

Yu, H., Fotheringham, A. S., **Li, Z.**, Oshan, T., Kang, W., & Wolf, L. J. Inference in multiscale geographically weighted regression. *Geographical Analysis*. *52*(1), 87-106.

2018 **Li, Z.** NoSQL Databases. *The Geographic Information Science & Technology Body of Knowledge (2nd Quarter 2018 Edition)*, John P. Wilson (Ed). doi: 10.22224/gistbok/2018.2.4.

2015 **Li, Z.**, Zhang, Z., & Davey, K. Estimating geographical PV potential using LiDAR data for buildings in downtown San Francisco. *Transactions in GIS, 19*(6), 930-963

Manuscripts under-review & in-revision

Li, Z. & Fotheringham, A. S. The Spatial and Temporal Dynamics of Voter Preference Influences Across Three U.S. Presidential Elections.

Rey, S., Anselin, L., Amaral, P., Arribas-Bel, D., Cortes, R., Gaboardi, J., Kang, W., Knaap, E., **Li, Z.**, LumnitzU, S., Oshan, T., Shao, H., & Wolf, L. The PySAL ecosystem: philosophy and implementation.

Sachdeva, M., Fotheringham, A. S., & **Li, Z.** Multiscale Local Hedonic House Price Modeling.

Wang, C., **Li, Z.**, Matthews, M., Praharaj, S., Karna, B., Solis, P. The Spatial Association of Social Vulnerability with COVID-19 Prevalence in the Contiguous United States.

Presentations

Invited talks

2020 Multi-scale Geographically Weighted Regression. Invited Talk at *Department of Geography, Western University, Ontario, Canada, Feb, 2020*

2019 Multi-scale Geographically Weighted Regression. Invited Talk at *Peking University 3rd Youth Forum on RS & GIS, Beijing, May, 2019.*

Conference presentations

2020 **Li, Z.** Fotheringham, A. S., Oshan, T. & Wolf, L. J. Measuring bandwidth uncertainty in multiscale geographically weighted regression using Akaike weights. Virtual oral presentation at *Association of American Geographers (AAG), Denver, Apr, 2020.*

2019 **Li, Z.**, Fotheringham, A. S., Li, W., & Oshan, T. FastGWR: Computational improvements to geographically weighted regression models. Oral presentation at *Association of American Geographers (AAG), Washington DC, Apr, 2019.*

Zhao, Q., **Li, Z.**, Thornton, J., Patricia, S., Elizabeth, A. W. Optimizing and rebalancing heat-related utility assistance provider-client system at Phoenix, Arizona. Guided poster presentation at *Association of American Geographers (AAG), Washington DC, Apr, 2019.*

Li, Z., Zhao, Q., Fischer, H., Patricia, S., Elizabeth, A. W. ActivityLog – HeatMappers: A novel research data collection tool for logging activities, locations and environment data. Poster presentation at *CAP-LTER (Central Arizona-Phoenix Long-Term Ecological Research) Twenty-First Annual All Scientists Meeting and Poster Symposium, Phoenix AZ, Jan 2019.*

Li, Z., Zhao, Q., Fischer, H., Patricia, S., Elizabeth, A. W. ActivityLog – HeatMappers: A novel research data collection tool for logging activities, locations and environment data. Poster presentation at *American Meteorological Society (AMS), Phoenix AZ, Jan 2019.*

2018 **Li, Z.** A comparison of open-source geographically weighted regression (GWR) packages. Oral presentation at *Spatial Accuracy 2018 , Beijing China, Jun 2018.*

2015 **Li, Z.**, & Shiklomanov, N. Impacts of urban and industrial development on Arctic land surface temperature in Lower Yenisei River Region. Poster presentation at *American Geophysical Union (AGU), San Francisco CA, Dec 2015.*

Shiklomanov, N., Nelson, F., Streletskiy, D., Klene, A., & **Li. Z**. CALM at 21: Results of long-term monitoring of the active layer/upper permafrost system. Oral presentation at *American Geophysical Union (AGU), San Francisco CA, Dec 2015.*

Li, Z., & Shiklomanov, N. Effects of Arctic urban and industrial development on and surface temperature: A case study for the Norilsk Region, Russia. Oral presentation at *Association of American Geographers (AAG), Chicago IL, Apr 2015.*

Teaching

University of Illinois

2020 Fall	GEOG 490 Principals in GIS (online)
2020 Fall	GEOG 595 Advanced Studies in Geography (hybrid)

Arizona State University

2020 Summer/2019 Fall	GIS 322 Programming Principles II (online)
2016 - 2017 Falls	GIS 211 Geographic Information Science II
2017 Spring	GIS 470 Statistics for Geographers
2016 Fall	GIS 322 Spatial Data Structure

Awards and Honors

2020	Summer Dissertation Completion Award ($5000), Arizona State University
2020	First-place of the John Odland Award ($500), American Association of Geographers
2019	Anthony J. Brazel Research Award ($1000), Arizona State University
2018	Honorary Mention, Poster Contest ($400), Arizona State University
2018	University Graduate Fellowship ($750), SGSUP, Arizona State University
2015	The runner-up team member in the 2015 World Geography Bowl at AAG, Chicago
2015	University Graduate Fellowship (full-tuition), George Washington University
2014	Graduate on the Dean's Honors List, University of Waterloo
2012	Chinese Universities Entrance Scholarship ($1000), University of Waterloo

Service

Manuscript reviews

Annals of the Association of American Geographers; Sustainable Cities and Society;
Computers & Geosciences; Journal of Transportation Safety & Security; ISPRS International Journal of Geo-Information

Student supervision

2020	Noelle Hester. GIS 205. Barrett honors project (3-credit), Arizona State University

2019 Ellyse Olson and Julia Marturano. GIS 205 Barrett honors project (3-credit), Arizona State University

Conference organization

2020 Session organizer: Computational spatial science approaches to building smarter and healthier cities I & II at the 2020 AAG Annual Meeting in Denver.

Program committee member: SpatialDI 2020, Shenzhen, China (The International Conference on Spatial Data Intelligence)

Open-source community

2017 – now PySAL (Python Spatial Analysis Library)

Software Development

Desktop and libraries

MGWR - Desktop software for calibrating Multi-scale Geographically Weighted Regression (MGWR) models. Freely available at: https://sgsup.asu.edu/sparc/mgwr.

mgwr - open-source python package for calibrating MGWR models. Available at: https://github.com/pysal/mgwr.

bknqgis - open-source QGIS plugin for making interactive maps. Available at: https://github.com/Ziqi-Li/bknqgis

Earthquake alert by Earthquick *(100,000+ downloads)* - Realtime earthquake alerts and maps of the world. Top 200 weather app in the US and China App Store. Sole developer.