

Insang Song

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EDUCATION

Ph.D. Geography

University of Oregon, Eugene, OR 4.18 / 4.30

09/2019 – 06/2023

M.A. Geography

Seoul National University, Seoul, Republic of Korea 4.15 / 4.30

03/2015 – 08/2017

B.A. Geography

Seoul National University, Seoul, Republic of Korea 3.90 / 4.30

03/2009 – 02/2015

WORK EXPERIENCE

Research Assistant

University of Oregon, Eugene, OR

06/2020 – 06/2023

- Assisted in Dr. Hui Luan (University of Oregon) to prepare datasets, perform spatial statistical analysis of the spatial pattern of Human Immunodeficiency Virus diagnosis in the United States
- Developed an R-Shiny based web application for Bayesian spatial disease modeling

Instructor

University of Oregon, Eugene, OR

01/2023 – 04/2023

- Instructor of Record for GIScience I (GEOG 481)
- Restructured lecture materials and evaluated student performance

Researcher

National Cancer Center of Korea, Goyang-si, Gyeonggi-do, Republic of Korea

01/2018 – 12/2018

- Analyzed the spatially varying association between low birth weight and air pollution (i.e., PM_{2.5} and NO₂) at district level in Republic of Korea
- Developed an internal tool for the computation of geographic variables from gigabyte-scale GIS datasets

Research Assistant

Seoul National University, Seoul, Republic of Korea

03/2015 – 02/2017

- Led a study on the estimation of representative PM₁₀ concentration at district level in Republic of Korea

GIS Specialist

Republic of Korea Army, Gyeonggi-do, Republic of Korea

02/2011 – 11/2012

- Developed a procedure of capturing and mosaicking high-resolution web imagery for tactical use
- Maintained tactical geographic database and supplied custom tactical maps
- Wrote a comprehensive manual on spatial analysis for military support

SKILLS

Computer
Languages
Software

R (i.e., tidyverse, data.table, sf, and shiny), Python, Julia, C++, JavaScript, LaTeX, Shell
QGIS, ArcGIS Pro, GDAL, GIMP, Inkscape, GeoDa, Linux

PROJECTS

Spatial disparity in socio-environmental effects on mental illness mortality *R, Python, Google Earth Engine (JavaScript), LaTeX*

In my dissertation project, I delved into the spatiotemporally evolving association between mental illness mortality and unemployment, the spatially heterogeneous effect of greenspace exposure to mental illness mortality, and the spatially conditioned causal effects of residential greenspace exposure on mental illness mortality across three spatial levels of county, census tract, and individual in the United States.

Spatiotemporal Kriging ensemble model for particulate matter data imputation *R*

I developed a resampling-based spatiotemporal Kriging ensemble imputation model to fill missing values in particulate matter (i.e., PM₁₀). The suggested model yielded up to 11% improvement in imputation accuracy.

autoSTK: automatic spatiotemporal Kriging package in R *R*

<https://github.com/sigmafelix/autoSTK>

This GitHub-based project aims to provide a user-friendly interface to perform spatiotemporal Kriging and its cross-validation for prediction modeling. The design philosophy was inherited from automap (Hiemstra et al. 2013).

AWARDS

Sandra Pritchard Mather Graduate Award *06/2022*

Department of Geography, University of Oregon

Recognized for excellence in academic performance in academic year 2021-2022

Raymund Fellowship *09/2019*

University of Oregon

Highly selective fellowship for accepted doctoral students in University of Oregon (2-8 awardees out of 200+ accepted students per year)

Excellent Poster Award *10/2016*

Korean Society of Environmental Health and Toxicology

Recognized for the best poster presentation in the annual meeting of the Korean Society of Environmental Health and Toxicology

PUBLICATION

1. I. Song, D. Kim, *Geographical Analysis* **In press**, DOI 10.1111/gean.12351.
2. T. Taggart, Y. Ransome, A. Andreou, I. Song, T. Kershaw, N. Milburn, *American Journal of Public Health* **113**, S136–S139, DOI 10.2105/AJPH.2023.307254 (June 2023).
3. I. Song, H. Luan, *Applied Geography* **140**, 102664, DOI 10.1016/j.apgeog.2022.102664 (Mar. 2022).
4. Y. Ransome, I. Song, L. Pham, C. Busette (May 3, 2022).
5. Y.-B. Jun, I. Song, O.-J. Kim, S.-Y. Kim, *Journal of Exposure Science & Environmental Epidemiology*, 1–7, DOI 10.1038/s41370-022-00412-1 (Jan. 26, 2022).
6. Y. Ransome, H. Luan, I. Song, D. A. Fiellin, S. Galea, *American Journal of Preventive Medicine*, DOI 10.1016/j.amepre.2021.08.032 (Nov. 1, 2021).
7. H. Luan, I. Song, D. A. Fiellin, Y. Ransome, *JAIDS Journal of Acquired Immune Deficiency Syndromes* **88**, 125–131, DOI 10.1097/QAI.0000000000002758 (Oct. 1, 2021).
8. D. Kim, I. Song, *The Professional Geographer* **73**, 131–149, DOI 10.1080/00330124.2020.1812408 (Jan. 2, 2021).
9. I. Song, O.-J. Kim, S.-A. Choe, S.-Y. Kim, *Environmental Research* **191**, 110096, DOI 10.1016/j.envres.2020.110096 (Dec. 2020).
10. D. Kim, J.-Y. Lee, J. Seo, I. Song, *Applied Geography* **109**, 102030, DOI 10.1016/j.apgeog.2019.05.007 (Aug. 2019).
11. I. Song, C. Lee, K.-H. Park, *Journal of the Korean Geographical Society* **53**, 427–444 (2018).
12. S.-Y. Kim, I. Song, *Environmental Pollution* **226**, 21–29, DOI 10.1016/j.envpol.2017.03.056 (July 2017).