

Kangjoon Cho

32 Hamilton Ave, Apt 4, Lynn, MA 01902

(857) 498-8812 | kangjoon@bu.edu | [LinkedIn](#) | [Google Scholar](#) | [GitHub](#) | [Website](#)

Environmental scientist with expertise in time-series modeling, Bayesian inference, and machine learning. Experienced in applying statistical modeling and simulation techniques to large-scale, high-dimensional remote sensing datasets with clustering and machine learning. Strong programming skills in R, Python, cloud computing with a proven record of cross-disciplinary research.

EDUCATION

Boston University, College of Arts and Sciences

Boston, MA

Doctor of Philosophy: Department of Earth and Environment, GPA 3.98/4.0

Expected May 2026

Advisor: Dr. Curtis E. Woodcock

Dissertation Title: Assessing the Impact of Utility-Scale Solar Development on Land Cover and Carbon Dynamics in Temperate Ecosystems

Relevant Coursework: Digital Image Processing, Physical Models in Remote Sensing, Advanced Remote Sensing, Micrometeorology, Ecological Forecasting

Seoul National University, College of Engineering

Seoul, South Korea

Master of Science: Civil and Environmental Engineering, **Valedictorian**, GPA 4.0/4.0

Sep. 2017 – Aug. 2019

Bachelor of Science: Civil and Environmental Engineering, **Cum laude**, GPA 3.59/4.0

Mar. 2010 – Aug. 2017

Advisor: Dr. Yongil Kim

Master's Thesis: Modulation and Regression based Hybrid Thermal Sharpening of Landsat-8 TIRS Imagery Using Fractional Urban Cover

Relevant Coursework: Remote Sensing, Spatial Information Systems (GIS), Satellite Image Interpretation, Principle of Radar Satellite and Data Processing, Digital Computer Concept and Practice, Statistics

RESEARCH EXPERIENCE

Research Fellow

Boston, MA

Center for Remote Sensing, Boston University

Jan. 2021 – Present

- Built an end-to-end geospatial analytics pipeline integrating Landsat time-series (2005–2024) to detect statewide solar development, forest loss, and other land disturbances ([Cho and Woodcock, 2025](#))
- Processed and modeled 10,000+ satellite images using Google Earth Engine and Python-based workflows
- Developed object-based model combining spectral, temporal, and geometric features and image clustering technique
- Applied ML classifiers achieving >90% accuracy for distinguishing solar-induced land cover change
- Engineered carbon modeling with Monte Carlo Simulations linking biomass, land cover change, and time-series trends

Research Assistant

Seoul, South Korea

Spatial Informatics & Systems Lab: Remote Sensing Group, Seoul National University

May 2016 – Aug. 2019

- Developed analytical methods for rapid disaster mapping, thermal anomaly detection, and hyperspectral-based environmental assessment using multi-sensor satellite imagery
- Built multi-sensor based geospatial pipelines for disaster-response mapping of large-scale flood and wildfire damage
- Engineered algorithm for thermal image super-resolution using SWIR-guided enhancement methods ([Cho et al., 2018](#))
- Applied ML classifiers and spectral unmixing approaches for hyperspectral crop classification and quality assessment

WORK EXPERIENCE

Research Associate

Seoul, South Korea

Engineering Research Institute, Seoul National University

Sep. 2019 – Aug. 2020

- Engineered geospatial intelligence products for national agencies using optical, SAR, and VHR satellite imagery. Led data-to-insight pipelines that translated raw imagery into operational decision-support tools
- Developed reproducible image-processing pipelines (Anomaly detection, segmentation, multi-resolution fusion) for rapid evaluation of physical assets and land conditions
- Managed a national-scale geospatial planning project coordinating data integration, model development, and stakeholder communication

Food Service Specialist, Republic of Korea Air Force, Pyeongtaek, South Korea

Feb. 2012 – Feb. 2014

LEADERSHIP EXPERIENCE

PhD Representative, Graduate Student Association, Boston University, Boston, MA

Jan. 2022 – Aug. 2023

- Hosted weekly coffee hours to strengthen peer communication and represented the department in university-wide meetings

TEACHING EXPERIENCE

Teaching Fellow, Boston University, Boston, MA

Jan. 2024 – Dec. 2025

- Lead weekly sessions for Introduction to Quantitative Environmental Modeling class
- Teach introductory R programming, multivariate regression, Bayesian stochastic modeling, and uncertainty quantification
- Mentored and supported over 100 undergraduate students in applied quantitative modeling and data analysis

- Served tutoring for peer in the department supported by the College of Engineering
- Taught Calculus, Statistics, Physics, Mechanics of Materials

HONORS AND AWARDS

Commendation Letter

- Korean Society of Surveying, Geodesy, Photogrammetry and Cartography

Best Paper Award

- Grand Prize, The Paper Contest of Writing in Science & Technology, Faculty of Liberal Education, Seoul National University

TECHNICAL SKILLS

Programming: R, Python, Google Earth Engine (JavaScript), MATLAB, C++

Software: ArcGIS, ENVI, ERDAS, SNAP, PolSARpro, eCognition, QGIS

PEER-REVIEWED PUBLICATIONS

Gu, H., Tang, X., **Cho, K.**, Acord, A. J., Rasmussen, P. G., Bosch, M. & Woodcock, C. E. Detection of New Construction Activities with Sentinel-1 and Landsat Time Series. *Remote Sensing Applications: Society and Environment*. 2026, 41, p.101893.

Cho, K. & Woodcock, C. E. Detecting Utility-Scale Solar Installations and Associated Land Cover Changes Using Spatiotemporal Segmentation of Landsat Imagery. *Science of Remote Sensing*. 2025, p.100337.

Tang, X., Barrett, M.G., **Cho, K.**, Bratley, K.H., Tarrio, K., Zhang, Y., Gu, H., Rasmussen, P., Bosch, M. & Woodcock, C.E., Broad-area-search of new construction using time series analysis of Landsat and Sentinel-2 data. *Science of Remote Sensing*, 2024, p.100138.

Tang, X., Bratley, K.H., **Cho, K.**, Bullock, E., Olofsson, P. & Woodcock, C.E. Near-real-time monitoring of tropical forest disturbance by fusion of Landsat, Sentinel-2, and Sentinel-1 data. *Remote Sensing of Environment*. 2023, 294, 113626.

Kim, M., **Cho, K.**, Kim, H. & Kim, Y. Spatiotemporal fusion of high resolution land surface temperature using thermal sharpened images from regression-based urban indices. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*. 2020, 3, 241-254.

Cho, K. & Kim, Y. Simulation of Sentinel-2 Product Using Airborne Hyperspectral Image and Analysis of TOA and BOA Reflectance for Evaluation of Sen2cor Atmosphere Correction: Focused on Agricultural Land. *Korean Journal of Remote Sensing*. 2019, 35(2), 251-263. (In Korean with English abstract)

Cho, K., Kim, Y. & Kim, Y. Disaggregation of Landsat-8 Thermal Data Using Guided SWIR Imagery on the Scene of a Wildfire. *Remote Sensing*. 2018, 10, 105.

CONFERENCE AND SEMINAR

Bratley, K. H., Nolte, C., Kaufmann, R., **Cho, K.** & Woodcock, C. E. (2024, December). Causal Inference in Ecological Management: Evaluating Treatment Efficacy on Invasive Buffelgrass (*Cenchrus ciliaris*) in Saguaro National Park Using Landsat Time-Series and Panel Regression Modeling. In AGU Fall Meeting Abstracts (Vol. 2024, No. 1517, pp. B11N-1517).

Cho, K. & Woodcock, C. E. Mapping Land Cover Changes Caused by Utility-Scale Solar Installation using the Continuous Change Detection and Classification - Spectral Mixture Analysis (CCDC-SMA) Algorithm. AGU Fall Meeting 2023, San Francisco, United States, 11-15 December 2023

Tang, X., Gu, H., **Cho, K.**, Barrett, M., Acord, A., Rasmussen, P., Bosch, M. & Woodcock, C. E. Broad-area-search of new constructions using time series analysis of Landsat and Sentinel-1 data. AGU Fall Meeting 2023, San Francisco, United States, 11-15 December 2023

Tang, X., Bratley, K.H., **Cho, K.**, Bullock, E., Olofsson, P. & Woodcock, C. E. Near-real-time monitoring of tropical forest disturbance by fusion of Landsat, Sentinel-1, and Sentinel-2 data. AGU Fall Meeting 2021, New Orleans, United States, 13-17 December 2021

Cho, K., Kim, Y. & Kwak, T. Object Based Hyperspectral Image Analysis for Cadastral Mapping. The 40th Asian Conference on Remote Sensing, Deajeon, South Korea, 14-18 October 2019.

Cho, K. & Kim, Y. Sharpening Algorithm of Landsat-8 TIR Data for the Urban Area. International Symposium on Remote Sensing 2019, Taipei, Taiwan, 17-19 April 2019.

Kim, Y., **Cho, K.**, Oh, J. & Kim, Y. The 2011 Tohoku Earthquake and Tsunami-induced Coastal Damage Assessment using L-band Polarimetric Features using Random Forest Classifier: An efficient-oriented reduction strategy. The 3rd International Water Safety Symposium, Incheon, South Korea, 19-23 June 2018.

Cho, K. & Kim, Y. Estimation of Land Surface Temperature for Assessing Urban Heat Island Effect. International Symposium on Remote Sensing 2018, Pyeongchang, South Korea, 09-11 May 2018.

Cho, K., Kim, Y. & Kim, Y. Quantitative Comparison of Sentinel-2 Level-2A Product and Simulated Imagery from Airborne Hyperspectral Data. ESA 2nd Sentinel-2 Validation Team Meeting, Rome, Italy, 29-31 January 2018.

Cho, K., Kim, Y. & Kim, Y. Disaster Damage Estimation using Change Detection Method with PolSAR Imagery and Object based Analysis. The 2017 Fall Conference of the Korea Society of Remote Sensing, Yesan, South Korea, 02-03 November 2017. (In Korean)

Cho, K., Kim, Y. & Kim, Y. Soil Condition Analysis using a Ground-based Hyperspectral Data. International Symposium on Remote Sensing 2017, Nagoya, Japan, 17-19 May 2017.

Cho, K., Kim, Y. & Kim, Y. Mapping of Fine Particulate Matter Concentration Using COMS Data. The 2016 Fall Conference of the Korea Society of Remote Sensing, Chungju, South Korea, 03-04 November 2016. (In Korean)