

# Kangjoon Cho

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Applied Scientist and Data Scientist with expertise in statistical modeling, time-series analysis, and machine learning for large-scale real-world systems. Experienced in developing end-to-end modeling pipelines integrating high-dimensional data, uncertainty quantification, and predictive modeling. Strong background in Bayesian inference, simulation, and scientific AI with applications to complex operational and environmental systems.

## EDUCATION

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**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  
Relevant Coursework: Digital Image Processing, Physical Models in 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  
Relevant Coursework: Satellite Image Interpretation, Principle of Radar Satellite and Data Processing

**Seoul National University, College of Engineering** **Seoul, South Korea**  
Bachelor of Science: Civil and Environmental Engineering, **Cum laude**, GPA 3.59/4.0 Mar. 2010 – Aug. 2017  
Relevant Coursework: Remote Sensing, Spatial Information Systems (GIS), Digital Computer Concept and Practice, Statistics

## TECHNICAL SKILLS

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**Programming:** Python (pandas, NumPy, scikit-learn, PyTorch), R, MATLAB, C++  
**AI/ML:** Machine learning, predictive modeling, computer vision, clustering, digital image processing, feature engineering, Model validation, Cross validation, Super-resolution  
**Statistical Methods:** Multivariate & Non-linear Regression, Statistical modeling, Bayesian inference, probabilistic modeling, Monte Carlo simulation, MCMC, uncertainty quantification, statistical testing, sparse representation  
**Time Series & Forecasting:** Time-series analysis, forecasting, anomaly and change detection, signal extraction  
**Other Tools:** Google Earth Engine, AWS, Cloud computing, high-dimensional data analysis, Geospatial Analytics

## RESEARCH EXPERIENCE

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**Research Fellow** Boston, MA  
*Center for Remote Sensing, Boston University* Jan. 2021 – Present

- Developed scalable statistical modeling pipelines analyzing 10,000+ satellite images (2005–2024) to detect infrastructure development and land-use change patterns
- Designed time-series modeling approaches to detect structural change and long-term environmental trends
- Built machine learning classification models and cross-validation achieving >90% accuracy in land change detection
- Developed probabilistic modeling framework using Monte Carlo simulation to quantify uncertainty in long-term environmental predictions
- Engineered feature pipelines transforming high-dimensional geospatial data into predictive modeling inputs for machine learning models
- Built reproducible end-to-end data science workflows including preprocessing, modeling, validation, and result interpretation

**Research Associate** Seoul, South Korea  
*Engineering Research Institute, Seoul National University* Sep. 2019 – Aug. 2020

- Designed large-scale geospatial data processing pipelines supporting national infrastructure monitoring projects
- Developed machine learning and computer vision pipelines for anomaly detection and pattern recognition in satellite imagery
- Led national-scale geospatial analytics project coordinating data integration, modeling workflows, and stakeholder reporting

**Research Assistant** Seoul, South Korea  
*Spatial Informatics & Systems Lab: Remote Sensing Group, Seoul National University* May 2016 – Aug. 2019

- Built data science pipelines for disaster-response mapping using large-scale satellite imagery
- Developed computer vision algorithm for thermal image super-resolution using multi-sensor data fusion
- Applied machine learning classifiers for hyperspectral image classification and model validation

## WORK EXPERIENCE

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**Applied Statistical Modeling Instructor, Boston University, Boston, MA** Jan. 2024 – Dec. 2025

- Lead weekly sessions for Introduction to Quantitative Environmental Modeling class
- Taught statistical modeling, Bayesian inference, and predictive modeling methods

**Food Service Specialist, Republic of Korea Air Force, Pyeongtaek, South Korea** Feb. 2012 – Feb. 2014

## LEADERSHIP EXPERIENCE

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**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