Bumjun Park

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🪪 PROFILE

Doctoral student in Biostatistics. Undergraduate statistics major with certificates in mathematics and economic analytics. Interests in spatial, environmental statistics, functional data analysis, and survey sampling methods. Proficient in R and Python. Native speaker of Korean and English. Intermediate level of Spanish and French.

🎓 EDUCATION

September 2023 – August 2028(expected) Seattle, WA	**University of Washington** *Ph. D. in Biostatistics*
September 2018 – May 2023 Madison, WI	**University of Wisconsin-Madison** *BS in Statistics, Cert. in Mathematics and Economic Analytics* (GPA: 4.0/4.0)
March 2015 – February 2018 Yongin, South Korea	**Hankuk Academy of Foreign Studies** *High School Diploma* (GPA: 4.0/4.0)

💼 PROFESSIONAL EXPERIENCE

September 2023 – present Seattle, WA	**Research Assistant** *Professor Eardi Lila, Department of Biostatistics, University of Washington* - Worked on a team led by Professor Mahmud Mossa-Basha, Department of Radiology, UW-Medicine and studied novel statistical methods such as multivariate functional data analysis methods for predicting ischemic stroke. - Investigated and developed quantitative models for reclassifying Embolic Strokes of Undetermined Source (ESUS) using cerebral vessel wall MRI data.
September 2022 – May 2023 Madison, WI	**Data Analyst** *Professor Jonathan Patz Lab, Nelson Institute for Environmental Studies, UW-Madison* 🔗 - Assisted researchers and graduate students at the Patz lab in preprocessing and processing data from projects in areas ranging from environmental policy, air quality, or epidemiology. - Fitted statistical models such as spatial random forests to investigate the relationship between incidences of malaria prevalence in Kenya and vegetation coverage, insecticide-treated net distribution, precipitation, and livestock population.

May 2022 – May 2023 Madison, WI	**Research Assistant**
	Professor Chris Zahasky, Department of Geoscience, UW-Madison 🔗
	- Implemented web-scraping algorithms to collect data of per- and polyfluoroalkyl substances (PFAS) concentration levels provided by the U.S. Air Force, Wisconsin Department of Natural Resources, and other state-level environmental agencies.
	- Provided data visualizations of the geo-statistical data and built an Inhomogeneous Poisson Process model to predict PFAS concentration levels after adjusting for opportunistically sampled data.

February 2022 – May 2023 Madison, WI	**Research Assistant**
	Professor Stephen Gammie, Department of Integrative Biology, UW-Madison
	- Collaborated with three other assistants to clean, preprocess, and analyze, RNA-sequencing gene expression data of mice with Alzheimer's disease, collected from multiple platforms to identify differentially expressed genes.
	- Collected gene expressions data of Parkinson's disease and Alzheimer's disease patients, wrote and implemented programming methods to process the data, and fitted a machine learning classification model by identifying top-scoring differential gene pairs.

September 2019 – July 2021 Osan, South Korea	**Aviation Control, Squadron Leader**
	2nd Squadron, 31st Air Defense and Control, Republic of Korea Air Force
	- Served as the squadron leader, leading and representing 20 servicemen of the 2nd Control Squadron.
	- Interpreted RADAR and GPS data and communicated with flight agencies to identify aircraft. Regularly presented and explained aviation data to other military officials and civilian pilots.

📰 PUBLICATIONS AND PRESENTATIONS

March 16th, 2023	**B. Park, H. Kang, W. Gnesda, and C. Zahasky. Groundwater Contamination of Per- and Polyfluoroalkyl Substances in the United States - Insights from an Ecological Sampling Bias Correction Method**
	American Water Resources Association - Wisconsin Section, Reconnecting with Wisconsin's Water and Water Scientists
	Poster presentation of research project displaying a PFAS contamination risk map, applying bias correction methods of observer biases in echological sampling.

November 7th, 2022	**B. Park, W. Gnesda, and C. Zahasky. Groundwater Contamination of Per- and Polyfluoroalkyl Substances in the United States — Insights from a Random Forest Model**
	Water@UW-Madison Fall Art & Poster Session
	Poster presentation of research project displaying a national risk map of PFAS contamination.

November 2nd, 2022	**T. Leffler, R. Hoffman, B. Park, J. Patz. Malaria Risk and Forest Cover Change in Kenya: A Geospatial Analysis**
	Planetary Health Alliance Annual Meeting 2022
	Poster presentation inspecting the relationship between vegetation and Malaria in Kenya for which statistical analyses and visualizations were provided.

⚜ AWARDS

April 28th, 2022	**UW-Madison Undergraduate Scholarship for Summer Study**
June 27th, 2018	**Wisconsin Alumni Association Korea Chapter (WAAK) Scholarship**
	Dean's List
	2018 Fall, 2019 Spring, 2021 Fall, 2022 Spring, 2022 Fall, 2023 Spring

🧠 SKILLS

R Programming ● ● ● ● ●
Data visualization (ggplot2, plotly), processing (dplyr), Bioconductor packages(limma, GEOquery), R Markdown documenting, etc.

Python Programming ● ● ● ● ○
Data processing (pandas), visualization (seaborn), Uniform Manifold Approximation and Projection etc.

GIS ● ● ● ● ○
Processing raster or vector data for geostatistical analyses such as Triangulated Irregular Network, and formatting the data for use in R or Python

SQL ● ● ○ ○ ○
Querying and joining relational databases

📇 CERTIFICATES

Certified Associate in Python Programming 🔗
Python Institute