

Yoonseul Choi

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EDUCATION

Master of Science in Applied Statistics, Hanyang University

Mar/2024 - Current
Seoul, Korea

- Focus areas: Spatial Data Analysis, Bayesian Statistics
- GPA: **4.31** / 4.5 (present)
- Under the supervision of Prof. [Jungsoon Choi](#)

Bachelor of science in Statistics, Dongguk University

Mar/2017 - Aug/2022
Seoul, Korea

- Graduated a bachelor's degree in seven terms
- GPA: **4.13** / 4.5 (Overall), **4.3** / 4.5 (Major)

SCHOLARSHIPS

Honors Scholarship (University Statistics and Experiments), Dongguk University

Aug/2017

Academic Excellence Scholarship, Dongguk University

Jan/2018

Academic Excellence Scholarship, Dongguk University

Aug/2018

Mathematical Statistics 1 Tutoring Assistant - ACE Scholarship

Aug/2018

JOB EXPERIENCE

Research Intern, Institute of Statistical Science, Academia Sinica, Taiwan

July - August/2025
Taipei, Taiwan

- Participate in an intensive research [internship](#) under the supervision of Prof. [Junho Yang](#).
- Topic: **Nonparametric Bootstrapping for a Spatial Point Pattern**
- Research
 - Modern statistical techniques for analyzing spatial point processes.
 - Inference of point patterns with measurement error.
 - computationally efficient methods for large spatial point pattern datasets.

- Key Performance Indicator (KPI) Metrics Establishment Committee:
 - Operated a committee to define **active members** and establish **KPI metrics**
 - Employed member segmentation and feature extraction using **clustering analysis**
 - Defined **conversion funnels** and calculated/visualized member **drop-off rates** (Retention Rate, Churn Period, Carrying Capacity) to evaluate app limitations
 - Built **Power BI** dashboards with a **90%** contribution
- Healthcare Cost Prediction Model
 - Data & Methodology:
 - Five-year Observational Study Utilizing the Korea Health Panel (KHP) Dataset
 - Employed **Random Effect Linear Regression Model with Panel Data combined with Ensemble Learning**
 - Completed model development and deployment, 90% contribution
- Kyobo Life Insurance B2B Project
 - Derived insights from clinical validation analysis for the **Kyobo Life Insurance EAP** (Employee Assistance Program) project, laying the foundation for the business strategy
 - Conducted **User analysis**, assessed the effectiveness of chronic disease management, and developed **B2B dashboards**
- Additional Works
 - Developed automation scripts on healthcare lifelog data using **PostgreSQL**
 - Created internal data dashboards using **Amazon Quicksight**
 - Natural Language Process (NLP) Keyword Analysis – NLTK and KeyBERT
 - Authored weekly academic paper review and technical posts

Analyst, Handball Player Selection, Korea Institute of Sports Science (KISS)

Nov/2022 – Jan/2023

- Developed a Multiple Linear Regression model and Random Forest to identify **promising handball players at an early stage**
- Addressed data imbalance and performed **Kaiser–Meyer–Olkin (KMO)** test along with Cronbach's alpha reliability analysis
- Achieved superior classification performance with **Random Forest Classifier**, evidenced by accuracy score of 0.9934 and F1-score of 0.9936

Analyst, National Fitness 100, Korea Institute of Sports Science (KISS)

Oct/2023 – Jan/2024

- Explored the representativeness of the National Fitness 100 dataset([Link](#)) and the Korea National Health and Nutrition Examination Survey (KNHANES)([Link](#))

PAPER

- Choi, Y., Jeong, J., & Choi, J. (2025). *Leveraging Surplus Electricity: Profitability of Bitcoin Mining as a National Strategy in South Korea*. arXiv:2505.00303. <https://doi.org/10.48550/arXiv.2505.00303> [Manuscript submitted for publication] May/2025

PRESENTATION

Academia Sinica Poster Presentation, Nonparametric Bootstrapping for a Spatial Point Pattern ([Poster Link](#)) Aug/2025

WSS 2025 Workshop on Spatial Statistics, Leveraging Surplus Electricity: Profitability of Bitcoin Mining as a National Strategy in South Korea ([Workshop Link](#)) July/2025

RESEARCH AND ANALYSIS

Spatial Statistics Lab Study, *Hanyang University* Jun/2024 – Current

- Utilizing Spatial Statistics Methods for site selection to construct Bitcoin Mining Farm in South Korea.
- Preparing interview questions, organizing discussion contents, and summarizing results with presentation.

Mini Thesis

- Lifestyle Patterns Comparison Between Individuals with Dementia and Without Using Lifelog Data ([Paper Link](#)) April/2025
- Bayesian Hierarchical Multivariate Spatial Modeling on the Prevalence of Diabetes and Hypertension of Korea ([Paper Link](#)) Aug/2024

Tutoring Assistant: Mathematical Statistics I, *Dongguk University* Mar/2018 – Jun/2018

Big Data Society ([Link](#)) — *Academic Society, Dongguk University* Jan/2019 – Dec/2020

- Responsible for preparing data analysis projects
 - Identified relationships and trends in data, as well as any factors that could affect the results of research.
 - Reported and made presentations for results of statistical analyses, including information in the form of graphs, charts, and tables.
 - Analyzed and interpreted statistical data to identify significant differences in relationships among sources of information.
 - Adapted statistical methods to solve specific problems in many fields, such as economics, biology, and engineering.
 - Developed software applications or programming to use for statistical modeling and graphic analysis.
 - Performed literature reviews and summarizing results.

CERTIFICATIONS

Survey Analyst, Junior — Human Resources Development Service of Korea

12 Nov 2020

COURSES

- **Graduate**
 - Statistical Consulting and Practice, Inferential Statistics, Regression Analysis, Nonparametric Statistics, Statistical Computing, Time Series Analysis, Theory of Linear Models, Bayesian Statistics, Spatial Statistics, Statistical Data Science
- **Undergraduate**
 - University Statistics and Experiments, Mathematics for Statistics and R, Linear Programming, Introduction to Probability Theory, Exploratory Data, Statistical Computing and Graphical Exercises, Mathematical Statistics 1 & 2, Stochastic Process, Nonparametric, Regression Analysis, Sample Survey Methodology and Practice, Planning of Laboratory, Statistical Quality Control, Time Series Analysis, Categorical Data Analysis

TECHNICAL SKILLS

- **Data / Statistics** | R, Python, MySQL, PostgreSQL, SAS, SPSS
- **Machine Learning** | Statmodels, CatBoost, LightGBM, Tensorflow/Keras
- **Visualization** | Power BI, Tableau, Excel, Quicksight
- **Version Control** | Git, Bitbucket

LANGUAGE ABILITIES

- **Korean**
 - Native speaker
- **English**
 - Speaking: Advanced
 - Writing: Advanced
 - Reading comprehension: Advanced