

Suehyun Kim

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Education

Seoul National University

M.S. IN STATISTICS

- Advisor: Kwonsang Lee

Seoul, South Korea

2024 - 2026 (expected)

Seoul National University

B.S. IN MATHEMATICAL SCIENCES & STATISTICS (DOUBLE MAJOR)

- *Summa Cum Laude*

Seoul, South Korea

2019 - 2024

Publications

Jang, J.*, **Kim, S.***, and Lee, K. (2025+). Mixing Samples to Address Weak Overlap in Causal Inference. *Submitted*. [arXiv]

Research Experience

Causal Inference Lab., Seoul National University

RESEARCH ASSISTANT & UNDERGRADUATE RESEARCH INTERN (ADVISOR: KWONSANG LEE)

Seoul, South Korea

Mar 2024 - present

- Mixing samples to address weak overlap in observational studies
 - Developed a practical statistical tool, *mixing*, to mitigate overlap violations and improve robustness to extreme weights in weighting methods for causal estimation
 - Extended and implemented the algorithm for modern weighting methods and applied it to real-world medical data
- Nested matching for time-series cross-sectional (TSCS) data
 - Designed a novel matching algorithm for causal inference in TSCS data, incorporating nested treatment structures and time-varying confounders
 - Applied the algorithm to estimate the causal effect of Netflix streaming on television viewing behavior

Statistical Learning Theory Lab., Seoul National University

UNDERGRADUATE RESEARCH INTERN (ADVISOR: SUNGKYU JUNG)

Seoul, South Korea

Dec 2023 - May 2024

- Identifying common factors in multi-source data
 - Proposed statistical algorithms to identify the maximal overlapping subspace across multiple data blocks by extending the concept of principal angles
 - Studied relevant topics high-dimensional statistics, including dimensionality reduction and random matrix theory

Data Science & Machine Learning Lab., Seoul National University

UNDERGRADUATE RESEARCH INTERN (ADVISOR: GUNWOONG PARK)

Seoul, South Korea

Jun 2023 - Aug 2023

- Reviewed and analyzed key topics in functional data analysis and its real-world applications
- Studied the foundations of directed acyclic graphs in causal discovery and their recent advancements

Presentations

CONFERENCE TALKS

Jang, J.*, **Kim, S.***, Lee, K. Mixing Samples to Address Weak Overlap in Causal Inference. *Korean Statistical Society Summer Conference*, Gyeongju, Korea, June 2025.

Jang, J.*, **Kim, S.***, Lee, K. Mixing Samples to Address Weak Overlap in Causal Inference. *American Causal Inference Conference (ACIC)*, Detroit, MI, United States, May 2025.

Selected Project Experience

Understanding Young Stellar Cluster Formation in the Triangulum Galaxy (M33) through Point Process Models

Fall 2024

SPATIAL STATISTICS (M1399.000300) FINAL PROJECT

- Analyzed the spatial relationship between young star clusters and giant molecular clouds in the Triangulum Galaxy (M33) using inhomogeneous Poisson and Neyman-Scott process models
- Improved upon previous work by incorporating variable selection and analyzing the individual contributions of covariates to the spatial patterns of star formation

Application of Functional Clustering Methods to Climate Data

Summer 2023

UNDERGRADUATE RESEARCH INTERNSHIP PROJECT

- Investigated functional PCA methods and functional clustering algorithms to analyze and interpret climate classifications based on annual temperature curves in Korea and Japan

Awards and Honors

- August 2024 **Alumni Association President's Award**, Seoul National University
- 2021 - 2023 **Kwanjeong Scholarship**, Kwanjeong Educational Foundation
Full tuition and fees for two years of undergraduate studies (KRW 22,000,000)
- 2020 - 2021 **GLEAP (Official Honor Society of College of Natural Sciences)**, Seoul National University
- 2019 - 2020 **Merit-Based Scholarship**, Seoul National University
Partial tuition for three semesters (KRW 5,390,000)
- 2019 - 2024 **Dean's List**, Seoul National University

Teaching Experience

SEOUL NATIONAL UNIVERSITY

- Winter 2024 **Freshman Pre-College Course in Statistics**, Teaching Assistant
- Fall 2024 **Data Analysis and Lab. (M1399.001400)**, Teaching Assistant
- Spring 2024 **Statistics (F32.102)**, Peer Tutor

Extracurricular Activities

- 2021 **Student President of SNU Department of Mathematical Sciences**
- 2019-2021 **Science Experience Camp at SNU College of Natural Sciences**, Mentor in Mathematics
Official 4-day summer outreach program offering students from under-resourced public high schools the opportunity to explore natural science fields
- Winter 2019 **Global SNU Social Responsibility (SNUSR) Corps**, Vice Team Leader of Team Uzbekistan
Overseas volunteering program in developing countries, fostering global sustainable growth and reflecting social responsibility of SNU

Skills

- Programming** R, Python, C, \LaTeX
- Language** Korean (native), English (fluent), Russian (proficient)