Hajoung Lee

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Research Interests

- Causal Inference
- High Dimensional Statistics
- Genomic Data Analysis
- Measurement Error Models
- Medical Statistics

Academic Appointments

Postdoctoral Researcher

Dec 2023 - Present

- Institute for Data Innovation in Science, Seoul National University
- Causal Inference Lab
- Mentor: Kwonsang Lee, Ph.D.

Education

Sungkyunkwan University

Ph.D., Statistics   Mar 2017 - Feb 2023

- Dissertation: Variable selection for ultra-high dimensional data with measurement error: Application to gene expression data
- Advisor: Jaejik Kim, Ph.D.

Korea University

B.S., Statistics & B.S., Industrial Engineering(Double Major)   Mar 2012 - Feb 2017

Grants & Fellowships

Domestic Postdoctoral Research Program   Sep 2025 - Aug 2028

National Research Foundation of Korea (NRF), funded by the Ministry of Education

- Role: Principal Investigator
- Amount: KRW 180 million (∼USD 130K)

IDEA Interdisciplinary Research Program   Mar 2025 - Feb 2026

Institute for Data Innovation in Science (IDIS), Seoul National University

- Role: Principal Investigator
- Amount: KRW 30 million (∼USD 22K)

LAMP Fellowship   Dec 2023 - Feb 2026

National Research Foundation of Korea (NRF), funded by the Ministry of Education

- Role: Principal Investigator
- Amount: KRW 34 million (∼USD 25K)

Awards & Scholarships

SKKU Best Teacher Award   Dec 2021
Sungkyunkwan University
- Outstanding Lecture Portfolio

Graduate Student Paper Presentation Award   Nov 2021
Fall Conference of the Korean Statistical Society
- Paper title: Variable selection for ultra-high dimensional data with measurement error

Paper Presentation Award   Nov 2021
Fall Conference of the Korean Data and Information Science Society
- Paper title: Gene screening through a measurement error model

Simsan Scholarships   Spring Semester, Fall Semester, 2019
Sungkyunkwan University

SG Poster Paper Award   May 2018
Spring Conference of the Korean Statistical Society
- Paper title: Clustering Korean online newspaper using LDA model

KU Alumni Scholarships   Fall Semester, 2013
Korea University

Semester High Honors   Spring Semester, 2013
Korea University

Publications

1. **Lee, H.**, and Kim, J. (2024). A Gene selection method considering measurement error. *Journal of Computational Biology*, 31(1), 71-82.

2. Seo, M., **Lee, H.**, Kim, S., and Ha, A. (2024). Nationwide prevalence of contraindicated prescription of brimonidine tartrate for Korean children. *Journal of the Korean Glaucoma Society*, 13(1), 45-46.

3. Kim, S., Kim, Y., Shin, Y., Kang, G., Kim, S., **Lee, H.**, Hong, I., Chang, I., Hong, S., Yoon, H., and Ha, A. (2024). Nighttime outdoor artificial light and risk of age-related macular degeneration. *JAMA Network Open*, 7(1), e2351650-e2351650.

4. Jeong, S., **Lee, H.**, Jung, S., Kim, J. Y., and Park, S. (2023). Higher energy consumption in the evening is associated with increased odds of obesity and metabolic syndrome: findings from the 2016–2018 Korean National Health and Nutrition Examination Survey (7 th KNHANES). *Epidemiology and Health*, 45.

5. **Lee, H.**, and Kim, J. (2022). A review of gene selection methods based on machine learning approaches. *The Korean Journal of Applied Statistics*, 35(5), 667-684.

Papers in Preparation

1. Ha, A., Kim, S., Lee, J., Oh, C., **Lee, H.**, Kang, G., Choe, S., Yoon, H., and Kim, Y.. COVID-19 susceptibility, severity, and mortality in visually impaired individuals: A nationwide study. Submitted.

2. Kim, Y., **Lee, H.**, Han, M., Kim, S., Hong, S., So, R., Yoon, H., Kim, S., and Ha, A.. Artificial nighttime light exposure during pregnancy and adverse birth outcomes. Submitted.

3. Shin, Y., **Lee, H.**, Kim, S., Hong, S., Ha, A., Jung, J., Yoon, H., Kim, S., and Kim, Y.. Light pollution exposure during pregnancy and risk of childhood strabismus. Submitted.

PRESENTATIONS

Invited Talks

- G-LAMP IDIS Noon Gathering, Institute for Data Innovation in Science, Seoul National University   Jun 2025
- Graduate Student Seminar, Department of Statistics, Seoul National University   Sep 2024
- Symposium on Causal Inference, SNU Causal Inference Research Group, Republic of Korea   Aug 2024

Contributed Talks

- 2025 Joint Statistical Meetings, Nashville, TN   Aug 2025
- 15th International Conference of the ERCIM WG on CMStatistics, London, UK   Dec 2022
- Fall Conference of the Korean Statistical Society, Korea University   Nov 2021
- Fall Conference of the Korean Data and Information Science Society, Sungkyunkwan University   Nov 2021

Poster Presentations

- American Causal Inference Conference 2025, Detroit, MI   May 2025
- European Causal Inference Meeting 2025, Ghent, Belgium   Apr 2025
- The 1st G-LAMP Festival, Kyungpook National University   Nov 2024
- Spring Conference of the Korean Statistical Society, Busan National University   May 2018

PROFESSIONAL ACTIVITIES

Conference Service

- Session Organizer & Chair, American Causal Inference Conference 2025
  - Recent Advances in Matching and Weighting for Causal Inference

TEACHING EXPERIENCE

Instructor   Aug 2020 – Aug 2021
Sungkyunkwan University   Seoul, Korea
- GEDB033 Big Data and Statistics

Teaching Assistant   Sep 2017 – Dec 2022
Sungkyunkwan University   Seoul, Korea
- STA2010 Introduction to Regression Analysis
- STA2011 Statistics
- STA2014 Introduction to Mathematical Statistics
- STA2017 Matrix Algebra for Statistics
- STA3007 Statistical Simulation
- STA3008 Introduction to Multivariate Statistical Analysis
- STA3014 Statistical Data Mining
- STA3036 Practice in Statistical Modeling and Machine Learning
- STA5003 Advanced Statistical Data Mining(Grader)

- STA5004 Advanced Categorical Data Analysis(Grader)
- STA5012 Nonparametric Statistics(Grader)
- STA5017 Regression Analysis(Grader)
- STA5031 Design and Analysis of Experiments(Grader)
- ADS5002 Basic Statistics(Grader)
- QAE5005 Big Data Analysis and Machine Learning(Grader)

WORK EXPERIENCE

Researcher

- College of Medicine, Seoul National University — Seoul, Korea
  Mar 2023 - Nov 2023
  - Genomic Data Analysis
  - Medical Statistics
  - EyeLight Data Science Laboratory
  - Principal Investigator: Young Kook Kim, MD, Ph.D.

- Dankook University — Cheonan, Korea
  Jul 2022 - Jan 2023
  - Panel Data Analysis

- National Food Safety Information Service — Seoul, Korea
  Nov 2020 - Dec 2022
  - Time Series Analysis

Lecturer

- Sungkyunkwan University — Seoul, Korea
  Aug 2020 - Aug 2021
  - GEDB033 Big Data and Statistics

Model Developer

- Begas — Seoul, Korea
  May 2018 – Sep 2018
  - Functional Data Analysis