

# Hajoung Lee

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## RESEARCH INTERESTS

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

## ACADEMIC APPOINTMENTS

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### Visiting Scholar

Dec 2025 - Mar 2026

- Department of Statistics and Data Science, The Wharton School, University of Pennsylvania
- Host: Dylan Small, Ph.D.
- Research Focus: High-dimensional matching, principled study design, and robust estimation in causal inference.

### Postdoctoral Researcher

Dec 2023 - Present

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

## EDUCATION

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### 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 & Industrial Engineering

Mar 2012 - Feb 2017

## GRANTS & FELLOWSHIPS

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<b>Domestic Postdoctoral Research Program</b>	Sep 2025 - Aug 2028
National Research Foundation of Korea (NRF), funded by the Ministry of Education	
<ul style="list-style-type: none"><li>• Role: Principal Investigator</li><li>• Amount: KRW 180 million (~USD 130K)</li></ul>	
<b>IDEA Interdisciplinary Research Program</b>	Mar 2025 - Feb 2026
Institute for Data Innovation in Science (IDIS), Seoul National University	
<ul style="list-style-type: none"><li>• Role: Principal Investigator</li><li>• Amount: KRW 30 million (~USD 22K)</li></ul>	
<b>LAMP Fellowship</b>	Dec 2023 - Feb 2026
National Research Foundation of Korea (NRF), funded by the Ministry of Education	
<ul style="list-style-type: none"><li>• Role: Principal Investigator</li><li>• Amount: KRW 34 million (~USD 25K)</li></ul>	

## AWARDS & SCHOLARSHIPS

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<b>SKKU Best Teacher Award</b>	Dec 2021
Sungkyunkwan University	
<ul style="list-style-type: none"><li>• Outstanding Lecture Portfolio</li></ul>	
<b>Graduate Student Paper Presentation Award</b>	Nov 2021
Fall Conference of the Korean Statistical Society	
<ul style="list-style-type: none"><li>• Paper title: Variable selection for ultra-high dimensional data with measurement error</li></ul>	
<b>Paper Presentation Award</b>	Nov 2021
Fall Conference of the Korean Data and Information Science Society	
<ul style="list-style-type: none"><li>• Paper title: Gene screening through a measurement error model</li></ul>	
<b>Simsan Scholarships</b>	Spring Semester, Fall Semester, 2019
Sungkyunkwan University	
<b>SG Poster Paper Award</b>	May 2018
Spring Conference of the Korean Statistical Society	
<ul style="list-style-type: none"><li>• Paper title: Clustering Korean online newspaper using LDA model</li></ul>	
<b>KU Alumni Scholarships</b>	Fall Semester, 2013
Korea University	
<b>Semester High Honors</b>	Spring Semester, 2013
Korea University	

## PUBLICATIONS

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\* Co-first author

1. Shin, Y., **Lee, H.**\*, Kim, S., Hong, S., Ha, A., Jung, J., Yoon, H., Kim, S., and Kim, Y. (2025). Light pollution exposure during pregnancy and risk of childhood strabismus. *European Journal of Ophthalmology*, 11206721251389516.
2. **Lee, H.**, and Kim, J. (2024). A Gene selection method considering measurement error. *Journal of Computational Biology*, 31(1), 71-82.

3. 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.
4. 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.
5. 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.
6. **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.

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## PAPERS IN PREPARATION

\* Co-first author

1. Ha, A., Kim, S., Lee, J., Oh, C., **Lee, H.**, Kang, G., Choe, S., Yoon, H., and Kim, Y.. Low vision and its association with COVID-19 susceptibility, severity, and mortality: A population-based cohort 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, Su., and Kim, Y.. Association of light pollution during pregnancy with risk of mental illness in children. Submitted.

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## 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, Gwangju, South Korea Aug 2024

### Contributed Talks

- 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

- 2025 G-LAMP Festival, Byeonsan, South Korea Dec 2025
- American Causal Inference Conference 2025, Detroit, MI, USA 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

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### Conference Service

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

## TEACHING EXPERIENCE

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### Instructor

Sungkyunkwan University

- GEDEB033 Big Data and Statistics

Aug 2020 – Aug 2021

Seoul, South Korea

### Teaching Assistant

Sungkyunkwan University

- 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)

Sep 2017 – Dec 2022

Seoul, South Korea

## WORK EXPERIENCE

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### Researcher

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

Seoul, South Korea

Mar 2023 - Nov 2023

- Dankook University
  - Panel Data Analysis
  - A study on the establishment and investigation of graduate student panel of Korea National University of Agriculture and Fisheries.

Cheonan, South Korea

Jul 2022 - Jan 2023

- National Food Safety Information Service Seoul, South Korea  
Nov 2020 - Dec 2022
  - Time Series Analysis
  - Conducted statistical analyses on public health issues, including energy consumption and metabolic risks, nutrition safety and online advertising, and national research data management.

## Lecturer

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

## Model Developer

- Begas Seoul, South Korea  
May 2018 – Sep 2018
    - Functional Data Analysis
    - Supported Shinhan Financial Group's global product sensing project, including stock price prediction analysis.