

# Junhyoung Chung

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## Education

**Seoul National University**, M.S. in Statistics

03/2024 – 02/2026 (expected)

- Advisor: [Gunwoong Park](#)

**Seoul National University**, B.S. & B.A. in Statistics & Economics (double major)

03/2018 – 02/2024

- *Summa cum laude*
- Completed mandatory military service as Squad Leader, Republic of Korea Army (09/2019 – 04/2021).

\* indicates the first author, and † indicates the authors who contributed equally.

Summaries of all studies are available on my website <https://junhyoung-chung.github.io/archive/>.

## On-going Works

**Operator Fused Optimal Transport: A Convex and Geometry-Preserving Formulation**

09/2025 – present

*Junhyoung Chung*<sup>\*</sup>, Gunwoong Park

In preparation for ICML 2026 (full draft available upon request).

## Publications

**Prediction of high-risk mountain accident areas using a Hurdle model** (*Written in Korean*)

08/2025

*Junhyoung Chung*<sup>\*</sup>, Sungjin Lee, Gunwoong Park

In *Korean Journal of Applied Statistics*, 38(4), 531-551, [10.5351/KJAS.2025.38.4.531](https://doi.org/10.5351/KJAS.2025.38.4.531)

**Discovering causal structures in corrupted data: Frugality in anchored Gaussian DAG models**

08/2025

Joonho Shin<sup>†</sup>, *Junhyoung Chung*<sup>†</sup>, Seyong Hwang<sup>†</sup>, Gunwoong Park<sup>†</sup>

In *Computational Statistics and Data Analysis*, 213, 108267, [10.1016/j.csda.2025.108267](https://doi.org/10.1016/j.csda.2025.108267)

**Learning distribution-free anchored linear structural equation models in the presence of measurement error**

12/2024

*Junhyoung Chung*<sup>\*</sup>, Youngmin Ahn, Donguk Shin, Gunwoong Park

In *Journal of the Korean Statistical Society*, 1-25, [10.1007/s42952-024-00298-9](https://doi.org/10.1007/s42952-024-00298-9)

**Horse race rank prediction using learning-to-rank approaches** (*Written in Korean*)

04/2024

*Junhyoung Chung*<sup>\*</sup>, Donguk Shin, Seyong Hwang, Gunwoong Park

In *Korean Journal of Applied Statistics*, 37(2), 239-253, [10.5351/KJAS.2024.37.2.239](https://doi.org/10.5351/KJAS.2024.37.2.239)

## Projects

**Korean National Fire Agency**, The central administrative agency of South Korea responsible for firefighting affairs

08/2024 – 12/2024

- Developed a grid-based prediction model for mountain accidents using a Hurdle model, improving F1 by 20 percentage points.

**Healing Paper**, Online cosmetic surgery matchmaking platform in South Korea

09/2022 – 12/2022

- Developed a classification framework for advertisement images by extracting key information with NLP and computer vision.

**Loadcomplete**, Mobile game studio in South Korea

07/2022 – 08/2022

- Estimated user retention by modeling with rational functions and shifted Beta-Geometric (sBG) models.

**LaundryGo**, On-demand laundry service platform in South Korea

03/2022 – 06/2022

- Analyzed pricing plans and derived subscription recommendations based on user behavior patterns.

## Research Experience

**Data Science & Machine Learning Lab.**, Seoul National University

06/2023 – present

- Graphical models
  - Developed consistent algorithms to discover latent DAG structures with contaminated data.
  - Extended nonparanormal graphical models to accommodate symmetric distributions by leveraging convex ordering.
- Optimal transport
  - Proposed a novel convex formulation of geometry-preserving optimal transport (Operator Fused OT), bridging feature-based and structural alignment in the fused Gromov–Wasserstein setting.
- Applications
  - Integrated a grid-based spatial model and a Hurdle model to predict mountain accidents.
  - Introduced learning-to-rank approaches to predict rankings in horse racing.

## Teaching Experience

### Seoul National University

**Leading Teaching Assistant**, Core Computing: Thinking with Computers

Fall 2024, Fall 2025

**Supporting Teaching Assistant**, Statistics

Fall 2025

**Supporting Teaching Assistant**, Statistics Lab.

Spring 2024

**Supporting Teaching Assistant**, Basic Computing: First Adventures in Computing

Spring, Fall 2023

## Talks

**Learning distribution-free anchored linear structural equation models in the presence of measurement error**, *Korean Statistical Society Conference*

06/2025

**Discovering causal structures in privacy-protected and noisy data: Frugality in anchored Gaussian DAG models**, *Korea-Japan Joint Symposium of Statistics and Data Science*

11/2024

**Learning distribution-free anchored linear structural equation models in the presence of measurement error**, *Joint International Seminar in Collaboration with Kyushu University*

07/2024

## Awards and Honors

**Presidential Science Scholarship**, *Korea Student Aid Foundation* (Field: Math)

03/2025 – 02/2026 (expected)

- Awarded by the President of South Korea as an outstanding graduate student in science and engineering.

**Research Scholarship, Basic Science Research Program**, *National Research Foundation of Korea*

09/2024 – 09/2025

- Prestigious NRF program supporting outstanding master's students conducting innovative, thesis-related research.

**3<sup>rd</sup> Prize, Online Overseas Volunteer Program Contest**, *Korean University Council for Social Service*

03/2022

- Recognized for developing an online educational service for under-resourced students abroad.

**Undergraduate Scholarship**, *Ilju Scholarship Foundation*

09/2018 – 02/2024

- Received full tuition scholarship for 7 semesters.

## Extracurricular Activities

**Tennis Club**, Seoul National University

09/2021 – present

- Served as a squad leader, organizing practices and mentoring new members.

**Growth Hackers**, Business School, Seoul National University

03/2022 – 12/2022

- Participated in 3 real-world data projects with corporate clients, developing analytical solutions to real business problems.

- Served as VR team leader in a collaborative online volunteer program with the National University of Laos, overseeing the production of VR content on smart farming and heat-illness prevention.

## Skills

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- **Programming:** Python, R, LaTex
- **Language:** Korean (native), English (fluent), Japanese (conversational)

## English Proficiency Scores

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- **MyBest TOEFL score (Total 108/120):** Reading 30/30, Listening 28/30, Speaking 23/30, Writing 27/30
- **MyBest GRE score (Total 332/340):** Verbal 162/170, Quant 170/170, Analytical Writing 4.0/6.0