Jeonghwan (Jayden) Lee

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Education

09/2022 – Present **The University of Chicago**, Chicago, IL, United States.
- ◇ Ph.D. candidate in Statistics. Advisor: Cong Ma.

03/2015 – 02/2022 **Korea Advanced Institute of Science and Technology**, Daejeon, Republic of Korea.
- ◇ B.S. in Mathematical Sciences.
- ◇ Graduation with honors (Summa Cum Laude and the KAIST Presidential Award).
- ◇ Left for mandatory military service: 10/2018 – 08/2020.

Research interests

I am broadly interested in the span of statistics, econometrics, machine learning, and mathematics of data science.

- **Statistics & econometrics**: high-dimensional and non-parametric statistics, and causal inference.
- **Machine learning (ML) & mathematics of data science**: statistical learning under distribution shift, and theoretical foundations of generative models.

Publications

($*$ = equal contribution)

Peer-reviewed conference publications

1. **Off-policy estimation with adaptively collected data: the power of online learning**.
   Jeonghwan Lee and Cong Ma.
   Conference on Neural Information Processing Systems (NeurIPS), Dec. 2024. (arXiv) (PDF)

2. **A Generalized Worker-Task Specialization Model for Crowdsourcing: Optimal Limits and Algorithm**.
   Doyeon Kim*, **Jeonghwan Lee***, and Hye Won Chung. ($*$ = equal contribution)
   Proceedings of the IEEE International Symposium on Information Theory (ISIT), Jul. 2022. (PDF)

Journal publications

3. **A Worker-Task Specialization Model for Crowdsourcing: Efficient Inference and Fundamental Limits**.
   Doyeon Kim*, **Jeonghwan Lee***, and Hye Won Chung.
   IEEE Transactions on Information Theory, Vol. 70, No. 3, pp. 2076–2117, Mar. 2024. (arXiv) (PDF)

4. **Robust Hypergraph Clustering via Convex Relaxation of Truncated MLE**.
   Jeonghwan Lee, Daesung Kim, and Hye Won Chung.
   IEEE Journal on Selected Areas in Information Theory (JSAIT), Vol. 1, No. 3, pp. 613–631, Nov. 2020. (arXiv) (PDF)

Preprints or submitted papers

5. **Generative collapse does not imply discriminative collapse**.
   Jeonghwan Lee, Chandramauli Chakraborty, and Cong Ma.
   Submitted (available upon request), 2026.

6. **Leveraging user-to-user social similarity graphs for multi-valued rating matrix completion**.
Jeonghwan Lee.
Submitted (available upon request), 2026.

7. **From Knowledge to Action: Outcomes of the 2025 Large Language Models (LLM) Hackathon for Applications in Materials Science and Chemistry**.
Aritra Roy et al. (A detailed list of contributors can be found in the appendix of the paper.)
arXiv preprint arXiv:2605.03205, 2026. (arXiv)

8. **Learning bounds for doubly-robust covariate shift adaptation**.
Jeonghwan Lee and Cong Ma.
arXiv preprint arXiv:2511.11003, 2025. (arXiv)

Working papers

9. **Demystifying iterative fine-tuning with verifier: when and why models provably improve and degrade**.
Jeonghwan Lee, Chanwoo Park, Taekyun Lee, Cong Ma, and Asuman Özdağlar.
Working paper, 2026.

Honors and awards

The 2025 Hackathon – Visionary Award (Team: JH_sqr) (code) (PDF). 09/2025
LLM Hackathon for Applications in Materials Science & Chemistry.

Doctoral Overseas Scholarship. 09/2022 – Present
Kwanjeong Educational Foundation.

The KAIST Presidential Award – Award for the best academic performance. 02/2022
The 2022 Commencement Ceremony of KAIST.

KAIST Math Problem Of the Week (POW) – Excellence Award. 06/2019
Department of Mathematical Sciences at KAIST.

The National College Students Mathematics Competition – Silver Prize. 12/2017
Korean Mathematical Society.

Dean's List. 09/2017
College of Natural Sciences at KAIST.

National Excellence Scholarship for Science and Engineering. 03/2017 – 06/2021
Korea Student Aid Foundation.

Department Honorary Scholarship – Awarded to the top student in the department. 03/2017
Department of Mathematical Sciences at KAIST.

Professional service

Conference reviewer Neural Information Processing Systems (NeurIPS): 2025.

Teaching experience

Teaching assistants at the University of Chicago

Winter 2026 Introduction to Probability Models (STAT 25300/31700).
Winter 2025 Statistical Methods and Applications (STAT 22000).
Autumn 2023 Statistical Methods and Applications (STAT 22000).
Winter 2023 Statistical Methods and Applications (STAT 22000).

Work experience

Amazon, Seattle, WA, United States. 06/2026 – 09/2026
◇ Applied Scientist internship. Host: Ana Danieli.
◇ Working on AI products that are the intersection of machine learning, statistics, and causal inference.

Republic of Korea Air Force, Jinju, Republic of Korea. 10/2018 – 08/2020
◇ Working as an aerographer (mandatory military service).
◇ Starting position: Airman Basic / Ending position: Staff Sergeant.

Organizational activities

09/2024 – 06/2025 The University of Chicago Korean Graduate Student Association (KGSA).
◇ Director of General Affairs.
09/2016 – 08/2020 KAIST Undergraduate Mathematics Colloquium (KUMC).
◇ Colloquium organizer.

Skills

Programming skills Python, R, C++, Java, MATLAB, LaTeX.
Languages Korean (Native), English (Fluent), Japanese (Moderate).

References

Professor Cong Ma (congm@uchicago.edu)
◇ *Assistant Professor* in the Department of Statistics at the University of Chicago.

Professor Chao Gao (chaogao@uchicago.edu)
◇ *Professor* in the Department of Statistics at the University of Chicago.

Professor Hye Won Chung (hwchung@kaist.ac.kr)
◇ *Associate Professor* in the School of Electrical Engineering and the School of Computing at KAIST.