

KIHYUN HAN

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RESEARCH INTERESTS

Semiparametric modeling, Nonparametric modeling, Survival analysis, Robust inference, Predictive inference, Distribution shift.

EDUCATION

Ph.D. Statistics

August 2022 - August 2027 (*expected*)

Pennsylvania State University, University Park, PA

- Committee: Yanyuan Ma (Chair), Cory McCartan, Bing Li, Keisuke Hirano
- Dissertation: *Semiparametric and Nonparametric Inference under a Right-Censored Covariate*.
- Comprehensive exam: June 2025
- Qualifying exam: May 2023 [*passed with distinction in all three exams (Theory 1, Theory 2, and Applied)*]

B.S. Mathematical Sciences, B.S. Statistics (double major)

March 2016 - August 2022

Seoul National University, Seoul, South Korea

- On leave for military service in Korean army for 2 years (2019 - 2020)
- Summa Cum Laude

RESEARCH

Preprints

1. **Han, K.**, Ma, Y., Marder, K., & Garcia, T. (2026).
SPYCE: A Doubly Robust Estimator for Trials Targeting Early Huntington Disease under Outcome-Dependent Censoring. [arXiv]
2. **Han, K.**, Ma, Y., Marder, K., & Garcia, T. (2026).
Semiparametric Prediction with Efficient Interval Length under a Right-Censored Covariate. [arXiv]

Working Papers

1. Li, M., **Han, K.**, & Ma, Y. (2026+).
Uncertainty Quantification for Importance Weights under Label Shift.
2. **Han, K.**, Ma, Y., Marder, K., & Garcia, T. (2026+).
Nonparametric Monotonicity-Preserving Quantile Regression under a Right-Censored Covariate.
3. **Han, K.**, Li, M., & Ma, Y., (2026+).
Safe Conformal Prediction under Label Shift.
4. **Han, K.**, & McCartan, C. (2026+).
Prediction Sequence: Anytime-Valid Regression-Based Sequence of Prediction Intervals.

SOFTWARE

1. spyce: Estimating a regression parameter in right-censored covariate setting under outcome-dependent censoring.
2. censcovpred: Producing a prediction interval under a right-censored covariate.

PRESENTATIONS

Contributed Talks

- **2026 Joint Statistical Meeting.** Semiparametric Prediction under Right-Censored Covariates.
Improving and Assessing Risk Prediction Models Session. Boston, MA August 2026 (*scheduled*)
- **2025 Joint Statistical Meeting.** SPYCE: Semi-Parametric Y-dependent right-Censored Covariate Estimator.
Semiparametric Modeling Advanced Research Session. Nashville, TN August 2025

TEACHING

Instructor

- STAT414: Introduction to Probability Theory Summer 2025

Teaching Assistant

- STAT544: Categorical Data Analysis (*Ph.D.-level*) Fall 2024
- STAT200: Elementary Statistics (*lab instructor*) Fall 2023, Spring 2024
- STAT414: Introduction to Probability Theory Fall 2022, Spring 2023, Summer 2023

AWARDS/SCHOLARSHIPS/MEMBERSHIPS

- Student Member of Korean International Statistical Society August 2025 - Present
- Member of Mu Sigma Rho: The National Statistics Honorary Society April 2025 - Present
- Student Member of American Statistical Association February 2025 - Present
- Harkness Statistics Enhancement Fund Award (best first-year Ph.D. student award),
Penn State Statistics Department June 2023
- 3rd place in Korea University Students Industrial Engineering Project Competition,
Korean Institute of Industrial Engineers November 2021
- Gold Prize in University Students Contest of Mathematics (for math major),
Korean Mathematical Society November 2018
- Presidential Science Scholarship, *Korea Student Aid Foundation* March 2016 - August 2022

SERVICE

- **Journal Reviewer** Stat 2024 - Present