Junu Lee

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Education

The Wharton School, University of Pennsylvania — Philadelphia, PA
Ph.D. in Statistics — 08/2022 – *Present*
Advisors: Zhimei Ren, T. Tony Cai

Harvard University — Cambridge, MA
A.B. in Mathematics and Statistics — 08/2018 – 05/2022
S.M. in Computer Science (concurrent AB/SM program)
Advisor: Lucas Janson

Research interests

Selective inference; Multiple hypothesis testing; Variable selection; Post-selection inference; e-values and e-processes; Sequential testing; Distribution-free inference;

Papers and preprints

** denotes alphabetical order or equal contribution*

[5] **Junu Lee**, Ilia Popov, and Zhimei Ren. "Full-conformal novelty detection: A powerful and non-random approach". Major revision at *Journal of the American Statistical Association*. arXiv (2025): 2501.02703.

[4] Jeffrey Zhang and **Junu Lee**. "A general condition for bias attenuation by a non-differentially mismeasured confounder". *Biometrika*, 2025. arXiv: 2409.12928.

[3] **Junu Lee** and Zhimei Ren. "Boosting e-BH via conditional calibration". Major revision requested at *Journal of the Royal Statistical Society, Series B*. arXiv (2024): 2404.17562.

[2] Taehyeon Kim, Eric Lin, **Junu Lee**, Christian Lau, and Vaikkunth Mugunthan. "Navigating Data Heterogeneity in Federated Learning: A Semi-Supervised Approach for Object Detection". In: *Thirty-seventh Conference on Neural Information Processing Systems*. 2023.

[1] Eugene Curtin, **Junu Lee**, Andrew Lu, and Sophia Sun. "A modified Grassmann algebra approach to theorems on permanents and determinants". In: *Linear Algebra and its Applications* 581 (2019), pp. 20–35.

Awards and honors

Lawrence D. Brown Student Paper Award Symposium Speaker	'24
NSF Graduate Research Fellowship	'22
Harvard College Research Program	'20
Herchel Smith Harvard Undergraduate Research Fellowship	'20
Derek Bok Certificate of Distinction in Teaching	'19, '20

Talks

Invited talks:

5. **Full-conformal outlier detection**
   Multiple Comparison Procedures (MCP)
   Philadelphia, August 2025
4. **Boosting e-BH via conditional calibration**
   BIRS: Game-theoretic statistical inference,
   Chennai, June 2025.
3. **Using e-values for conformal multiple testing**
   Wharton Statistics First Year Ph.D. Student Seminar
   Philadelphia, April 2025.
2. **Boosting e-BH via conditional calibration**
   Lawrence D. Brown Student Paper Award Symposium
   Philadelphia, November 2024.
1. **Boosting e-BH via conditional calibration**
   International Seminar on Selective Inference
   Virtual, June 2024.

Contributed talks:

2. **Boosting e-BH via conditional calibration**
   Joint Statistical Meetings (JSM),
   Nashville, August 2025
1. **Boosting e-BH via conditional calibration (with applications to variable selection)**
   Eastern North American Region (ENAR)
   New Orleans, March 2025.

Teaching

Teaching Assistant, The Wharton School

STAT 9270*‡: Bayesian Statistical Theory and Methods	Spring '24
STAT 4050‡/7050†‡: Statistical Computing with R	Fall '23 (Q2)
STAT 1110: Introductory Statistics	Fall '23
STAT 1020: Introductory Business Statistics	Fall '22

Teaching Assistant, Harvard University

STAT 149: Introduction to Generalized Linear Models	Spring '22
STAT 210*: Probability I	Fall '21
STAT 111: Introduction to Statistical Inference	Spring '20, '21
STAT 110: Introduction to Probability	Fall '19, '20, '21

**: graduate-level courses; †: MBA courses; ‡: guest lectures given*

Professional service

Wharton Doctoral Program Ph.D. Mentor August 2024 – *Present*
Provided mentorship to incoming Ph.D. students.

Invited Discussant
International Seminar on Selective Inference:

– "E-statistics, group invariance and anytime-valid testing" by Muriel Pérez-Ortiz, December 2024
– "Bringing Closure to FDR Control With a Uniform Improvement of the e-Benjamini-Hochberg Procedure" by Neil Xu, May 2025

Conferences
– Chair of the invited session "Conformal inference and statistical testing for reliable deployment of AI/ML models" at Joint Statistical Meetings (JSM), 2025
– Organizer and co-chair of the invited session "The role of e-values in multiple testing" at Multiple Comparison Procedures (MCP), 2025

Industry experience

Dynamo AI *Various*
Founding member, advisor 05/2022 – 12/2023
– Developed a multitude of federated learning algorithms and adapted them to various problem domains, e.g., finance, automated driving.
– Met with industry partners to collaborate on algorithms and present finished products.

Hudson River Trading New York, NY
Algorithm developer intern 06/2021 – 08/2021
– Completed multiple quantitative projects on financial forecasting.

Proton.ai Boston, MA
ML research intern 05/2019 – 08/2019
– Developed NLP-based recommendation systems for sales teams to efficiently market new products and promotions.
– Contributed to the research and training of customer churn models.