JungHo Lee

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Research Interests

Methodology: Causal inference, machine learning, nonparametric statistics
Application: Public policy, criminal justice, online experimentation

Education

Carnegie Mellon University — Pittsburgh, PA
Joint Ph.D. in Statistics and Public Policy — 2023 – 2028 (Expected)
Advisor: Edward H. Kennedy

The University of Chicago — Chicago, IL
M.S. in Statistics — 2021 – 2023
Advisors: Panos Toulis, Lek-Heng Lim

Boston College — Chestnut Hill, MA
B.A. in Mathematics, B.A. in Economics with Honors — 2014 – 2018
Advisor: Claudia Olivetti

Working Papers

*equal contribution

Zeng, Z., Levis, A. W., **Lee, J.**, Kennedy, E. H., Keele, L. Nonparametric Estimation of Derivative of Dose-Response Curve: with Application to Local Instrumental Variable Curves.

Lee, J., Baćak, V., Kennedy, E. H. Smooth Populations of Parameters with Trial Heterogeneity.

Lee, J., Puelz, D., Toulis, P. Fisher Meets BART: Integrating Causal Machine Learning with Randomization Tests.

Guo W.*, **Lee, J.***, Toulis, P. (2024). ML-Assisted Randomization Tests for Complex Treatment Effects in A/B Experiments. *Submitted.*

Wang, R., **Lee, J.**, Lim, L. H. (2024). Summing Divergent Matrix Series. *Submitted.* [arXiv]

Conferences/ Workshops

Xing, W., **Lee J.**, Liu, C., Zhu, S. (2024). Black-Box Optimization with Implicit Constraints for Public Policy. *ICLR 2024 Generative Models for Decision Making* [arXiv]

Presentations

ML-Assisted Randomization Tests for Complex Treatment Effects [poster]
- American Causal Inference Conference 2024 (Poster)

Fisher Meets BART: Integrating Causal Machine Learning with Randomization Tests [poster]
- American Causal Inference Conference 2023 (Oral)
- American Statistical Association, Northern-Illinois Chapter 2022 (Poster)
- International Society for Bayesian Analysis 2022 (Poster)

Honors/Awards

PwC Center Presidential Fellowship, Carnegie Mellon University — 2023
First Place, ASA Northern Illinois Chapter Student Poster Competition — 2022
Merit-Based Tuition Scholarship, UChicago Statistics Department — 2022
Junior Researcher Travel Grant, International Society for Bayesian Analysis — 2022
Undergraduate Research Fellowship, Boston College Economics Department — 2017

Teaching

Instructor

The University of Chicago

- Statistics for Research, Environmental Data Science Bootcamp (Graduate) [evaluation] — Sep 2022

Teaching Assistant

Carnegie Mellon University

- Summer Undergraduate Research Experience (SURE) in Statistics — Summer 2024

The University of Chicago

- BUS 41204: Machine Learning (MBA, Booth School of Business) — Winter 2023
- DATA 22700: Data Visualization and Communication (Undergraduate) — Autumn 2022
- BUS 41100: Applied Regression Analysis (MBA Core, Booth School of Business) — Autumn 2021
- STAT 32940: Multivariate Data Analysis via Matrix Decompositions (Graduate) — Autumn 2021

Other Experience

CMU Statistics & Data Science — Pittsburgh, PA
Research Assistant — Aug 2024 – Current

- Grant support: "Efficient nonparametric estimation of heterogeneous treatment effects" (NIH R01-LM013361-01A1) from Edward H. Kennedy and Luke Keele

InspiritAI — Virtual
AI Instructor — Jul 2022 – Aug 2022

- Taught various topics in machine learning with demonstrations using Scikit-Learn; provided mentorship on group AI project about exoplanet detection

Army Missile Strategic Command — Wonju, South Korea
Interpreter Sergeant — Jul 2018 – Mar 2020

- Translated publications about strategic weapon systems; assisted FUOPS and CUOPS during ROK-US joint exercises; escorted and interpreted for foreign VIPs

Language Learning Lab at Boston College — Chestnut Hill, MA
Statistical Research Assistant — Jan 2017 – May 2018

- Developed a model selection algorithm for analyzing crowd-sourced language data; performed statistical meta-analysis of the literature on memory using a random effects model

Service

Reviewer

Journal of Causal Inference (1)
INFORMS Workshop on Data Science 2024
American Causal Inference Conference 2024

Skills

Technical

- Programming and Script Languages: R, Python(PyTorch, Pandas, Scikit-learn), SQL
- Others: Git, cluster computing, LaTeX

Languages

English (bilingual proficiency), Korean (native)

Software

MLRand: Python package for ML-assisted randomization tests (in preparation)