Sookyo Jeong

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Education

Stanford University, *PhD in Economics*　　2016-2021 (expected)
- **Research Interests:** Causal Inference, Statistical Learning Methods, Applied Microeconomics
- **Teaching:** Introduction to Statistical Methods, Economics of Health and Medical Care

Wellesley College, *BA in Economics*　　2014
Magna Cum Laude, Honors in Economics

Research

Estimating Causal Effect of Air Pollution on Academic Performance (Summary)

I analyze causal effect of air pollution on academic performances of Korean elementary/middle/high school students in 2009-2016 using an instrumental variable approach. Exploiting unique geography of Korea where pollution matters from China exogenously vary depending on wind direction, I use wind direction as source of variation to evaluate causal effect of air pollution.

Causal Inference Under Covariate Shift via Worst-case Subpopulation Treatment Effects
with Hongseok Namkoong (PDF) Journal version under review
Short version appeared in Conference on Learning Theory (COLT), 2020
Standard causal approaches that estimate the average treatment effect are not effective under biases arising from lack of representation of minority groups in datasets. We propose a worst-case treatment effect, that guarantees uniformly good performance across all subpopulations of a given size. Our approach allows flexible use of ML models to estimate treatment effects, and uses them conservatively to guard against brittle findings that are invalidated by unanticipated covariate shifts.

The Effect of Delayed Retirement Credit on Social Security Claiming and Employment
with Mark Duggan, Irena Dushi, and Gina Li (in progress) (Summary)
We investigate the effect of changes in the delayed retirement credit (DRC) on workers' decisions to claim retired-worker benefits. We use micro-level Social Security Administration data to quanitify the effect on social security claiming, and its interaction with labor market participation.

Employment

Lyft, Research Science Intern　　2020
- Investigated long term heterogeneous treatment effects of Lyft's coupon program, and performed subgroup analysis for riders with disparate treatment effects
- To infer long term business impacts, developed a surrogate modeling approach that predicts long term outcome based on short term outcome, a more flexible improvement to the default long term multipliers

Stanford Economics, Research Assistant　　2017-2018
- Estimated effect of social insurance created by family ties using instrumental variable approach
- Analyzed a data set of more than 10 million Swedes, including demographic, labor market, and pharmaceutical information from 1985-2013

MIT Economics, Research Assistant　　2015-2016
- Managed a randomized control trial studying the effect of full college tuition scholarship on academic achievement of students attending post secondary institutions in Nebraska
- Applied semi-parametric statistical methods to estimate causal effect of the scholarship

National Bureau of Economic Research, Research Assistant　　2013-2015
- Applied diff-in-diff approach to estimate spillover effect of rent decontrol in Cambridge, MA in 1996
- Acquired and cleaned data on crime and city budget from the Cambridge Police Department

Programming languages

Python, SQL, Stata, R, MATLAB, C++, Java