

## Professional Summary

Econometrician with extensive experience in applied and theoretical research. Expert in causal inference and statistical modeling, including A/B testing, Differences in Differences, Synthetic Control, Double Machine Learning, Instrumental Variable, and Generalized Method of Moments. Proficient in Python, Stata, and SQL for implementing complex data analysis.

## Technical Skills

**Software:** Python, Stata, SQL, GraphViz, LaTeX.

**Statistical Methods:** A/B Testing, Treatment Effect, Differences in Differences, Synthetic Control, Double Machine Learning, Covariate Adjustment, Sample Selection/Weighting, Regression Discontinuity Design, Instrumental Variable, Control Function, Generalized Method of Moments, Logit, Probit, Tobit, Markov Chain Monte Carlo, Bootstrapping Methods.

## Professional Experience

**Assistant Professor, Tippie College of Business - University of Iowa** 08/2020 - 05/2025

- Conducted research in applied and theoretical econometrics. Taught undergraduate and Ph.D. econometrics courses with strong focus on causal inference.

**Graduate Student Instructor, Department of Economics - UC Berkeley** 01/2015-05/2019

- Taught discussion sections for undergraduate and Ph.D. economics courses. Received Outstanding Graduate Instructor Award.

**Research Assistant, Department of Economics - UC Berkeley** 06/2016-01/2017

- Wrote Python code that implements importance sampling and bootstrapping of graphs (adjacency matrices) with a given degree sequence. Wrote and verified statistical models.

## Selected Research Projects

### “Network of Loyalty Programs: A Sequential Formation”

- Utilizes novel data collected from 10Q and 10K, a structural model, and Markov Chain Monte Carlo estimation to study partnership formation among credit card issuers, hotel chains, and airlines.
- Finds (1) firms are more likely to form partnerships with a firm that is already a partner of a competitor (e.g., Amex is a competitor of Citi) than otherwise, (2) firms value how a new partner complements their existing portfolio of partners. These results hold above and beyond the individual characteristics (KPIs) of both firms involved in a partnership formation.

### “Dyadic Regression with Block Fixed Effects and Application to Input-Output Matrix”

- Proposes a novel dyadic logit model with two-way block-specific fixed effects. Uses it to study the relationship among industries that constitute the U.S. Input Output matrix.
- Key innovation is integrating stochastic blockmodel with dyadic logit to (1) circumvent the incidental parameter problem and (2) reduce computation cost.

## Education

### UC Berkeley

- Ph.D., Economics 07/2014 - 05/2020
- B.A., Applied Mathematics and Economics, *high distinction, Phi Beta Kappa* 01/2011 - 05/2013

## Other

- U.S. Permanent Resident, Citizen of South Korea.
- Scored 586/600 on xAI Cognitive Reasoning Assessment (on my defense, I had a flu at the time).