Jiguang Li

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Education

- **The University of Chicago Booth School of Business** **Chicago, IL** *Sep 2022 -*
  - Ph.D. student in Econometrics and Statistics, M.B.A, supervised by *Veronika Ročková*
  - Research Interests: Bayesian Statistics, Reinforcement Learning, Psychometrics
- **Yale University** **New Haven, CT** *Aug 2019 - May 2020*
  - Master of Arts in Statistics
- **Middlebury College** **Middlebury, VT** *Sep 2015 - May 2019*
  - Bachelor of Arts in Mathematics, Bachelor of Arts in Computer Science
  - Summa Cum Laude , Highest Honor in Mathematics , Davis UWC Scholar

Publications

- **Jiguang Li**, Robert Gibbons, and Veronika Ročková. "Sparse Bayesian Multidimensional Item Response Theory." *Journal of the American Statistical Association*, 2025 (in press). [paper link][code link]
- **Jiguang Li**, Robert Gibbons, and Veronika Ročková. "Deep Computerized Adaptive Testing." Submitted, 2025. [paper link][code link]

Core Skills

Languages: Chinese (native), English (fluent), Spanish (college-level intermediate), Italian (IB ab initio)
Teaching Assistant: Business Statistics, Calculus III, Economics History, and Linear Algebra.
Programming Languages: Python (Pytorch), R, Java, LaTeX, basic Javascript, HTML, and C

Experiences

- **Full-time Research Professional at the Center for Applied AI** **The University of Chicago**
  Supervised by Sendhil Mullainathan *Aug 2020 - July 2022*
  - Implemented deep learning models (Pytorch) for medical Imaging research: Convolutional Neural-networks, Model-Agnostic Meta-Learning, Parallel GPU computation, and StyleGAN2.
  - Built Bayesian inference codebase with Hamiltonian Monte Carlo Markov Chain (Pymc3) for educational testing and evaluations.
  - Data analysis experiences: education item response data, DICOM X-ray Images, conviction history.
- **Research on Online Volunteers Market Matching** **Yale University**
  Supervised by Vahideh Manshadi *May 2020 - Aug 2020*
  - Optimized matching strategies to maximize the probability of matching volunteers to nonprofits.
  - Built analysis pipeline to analyze 100,000+ anonymized volunteers' activities to help nonprofits better understand volunteers behaviors.
- **Summer Research Assistant on Astrostatistics** **Yale University**
  Summer Research Assistant *Summer 2019*
  - Implemented two state of art astrostatistics methodologies for continuum normalization in Python.
  - Wrote demo website for astronomy continuum lab source smoothing.
- **Summer Research Assistant on Astrostatistics** **California Institute of Technology**
  Supervised by George Djorgovski and Eilat Glikman *Summer 2017*
  - Implemented data analysis pipeline to analyze different types of variability indices for radio-quiet and radio-loud quasars. Conducted two-sample statistical hypothesis testings.
  - Recipient of 2017 Caltech Visiting Undergraduate Research Award (VURP).

Presentations

- Contributed Talk at J-ISBA Conference (06/2024, Venice, Italy)
- Contributed Poster at ISBA Conference (07/2024, Venice, Italy)
- Invited Talk at Chicago Booth Healthcare Initiatives (11/2024, Chicago, IL)

Selected PhD-level Coursework

- **Economics**: Bayesian Econometrics, Causal Machine Learning, Empirical Analysis, Price Theory 2 & 3, Theory of Income 1.
- **Mathematics**: Advanced Probability, Measure Theory, Optimization Techniques, Spectral Graph Theory.
- **Statistics/ML**: Bayesian Deep Learning, Fundamentals of Deep Learning, High-dimensional Hypothesis Testing, Linear Models, Mathematical Statistics 2.