Jiguang Li

•jiguangl@uchicago.edu • (802) 363-9142 • Website: https://jiguangli.github.io/
•5807 S Woodlawn Ave • Chicago, IL 60637

Education

- **Yale University** **New Haven, CT** *Aug 2019 - May 2020*
  - Master of Arts in Statistics
  - Courses: [1]: Linear Models (H), Optimization (H), Spectral Graph Theory (HP), Measure Theory (H), Data Analysis(H), Theory of Statistics (H), Advanced Probability(H), Predictive Modeling (H)
- **Middlebury College** **Middlebury, VT** *Sep 2015 - May 2019*
  - Bachelor of Arts in Mathematics, Bachelor of Arts in Computer Science
  - Summa cum laude (GPA: 3.83/4.00) ; Highest Honor in Mathematics
  - Honors Thesis: The Chevalley-Warning Theorem: Its Proofs, Generalisations, and Applications

Core Technical Skills

Languages: Chinese (native), English (fluent), Spanish (intermediate), Italian (intermediate)
Tutoring: Teaching assistant for Macroeconomics Theory, Linear Algebra, and Calculus at Middlebury College
Certificates: Neural Networks and Deep Learning by deeplearning.ai on Coursera *June, 2018*
Programming Languages: Python, R, Matlab, Java, C, Javascript, Basic HTML, Basic SQL, LaTeX, Maple

Research Experiences

- **Research on Statistical Modeling and Education Policy** **The University of Chicago**
  Full-time Research Data Scientist *Aug 2020 - Jul 2021*
  - Implemented probabilistic models to generate students' item-by-item data.
  - Built customized multidimensional Item Response Theory (MIRT) models.
  - Cleaned, visualized, and analyzed students' item-by-item response data using R and Python.
  - Applied AutoML to find the optimal network architecture.
- **Research on Online Volunteers Market Matching** **Yale University**
  Research Assistant *May 2020 - Aug 2020*
  - Built pipeline to scrape, store, and analyze 100,000+ anonymized volunteers' devices activities using Google Analytics API.
  - Optimized sorting algorithms to maximize the probability of matching volunteers to nonprofits.
- **Astrostatistics Research on Spectrum Normalization Algorithms** **Yale University**
  Research Assistant *Summer 2019*
  - Implemented two state of art astrostatistics algorithms for continuum normalization in Python.
  - Developed Python code for lab source smoothing using the Alpha-shape Fitting to Spectrum (AFS) algorithm.
- **Astrostatistics Research on Quasar Variability** **California Institute of Technology**
  Research Assistant *Summer 2017*
  - Implemented Python codes to analyze and compute different types of variability indices for radio-quiet and radio-loud quasars.
  - Conducted statistical hypothesis testing: two-sample K-S and Anderson-Darling tests.
  - Recipient of 2017 Caltech Visiting Undergraduate Research Award (VURP).
- **Convex Optimization on Fastest Mixing Markov Chain** **Class Project at Yale**
  - Gave an original proof to deduce the optimal transition probability matrix P* for star graphs analytically (See Conjecture 5.2). The proof was inspired by the proof of a similar result for line graphs.

[1] Yale Graduate School of Arts and Sciences Grade Scale: H: Honors; HP: High Pass; P: Pass; F: Fail;