Yingqi Gao

Department of Statistics & Data Science
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RESEARCH INTERESTS

My research bridges Economics and Machine Learning in two key areas: analyzing the economy of machine learning-related products and integrating economic concepts into machine learning model design. I explore the commercialization of data, machine learning models, and digital goods while also incorporating economic principles to enhance model development.

EDUCATION

Sept 2021 – Present	**University of California Los Angeles** PhD in Statistics & Data Science Mentor: Prof. Xiaowu Dai.
Sep 2019 – Dec 2020	**Columbia University in the City of New York** MA in Statistics Mentor: Prof. Michael Sobel.
Sep 2015 – Jun 2019	**University of California San Diego** BS in Probability & Statistics, BS *magna cum laude* in Management Science Mentor: Prof. Jelena Bradic.

HONORS AND AWARDS

2020	Recipient of the Statistics Department Chair's List of Academic Achievements (Columbia University in the City of New York)
2020	JSM 2020 Registration Award (Columbia University in the City of New York)

RESEARCH EXPERIENCE

Feb 2023 – Present	**The Design of Data Marketplace**
	Mentor: Xiaowu Dai (Tenure-Track Assistant Professor in the Department of Statistics & Data Science and the Department of Biostatistics, University of California Los Angeles)
	Thoroughly organizing, analyzing, and comparing existing methods for pricing and trading of data, machine learning models, and digital goods in general. Improving and tailoring existing digital auctions (auctions of goods with unlimited supply) to data selling by inheriting a posted price. Introducing a no-regret learning-to-price algorithm for revenue-maximizing monopolists.
	Technical Skills: R, Python with rpy2, Scipy, etc., high-performance compute cluster.
Jun 2020 – Jun 2021	**Bayesian Hierarchical Sparse VAR Model for fMRI Data**
	Mentors: Michael Sobel (Professor in the Department of Statistics, Columbia University) and Martin Lindquist (Professor in the Department of Biostatistics, Johns Hopkins University).
	Led the refinement of an innovative multi-subject multi-session Bayesian hierarchical sparse VAR model for resting state connectivity in fMRI analysis. Tested stability of the above model through simulations including misspecifications which covered levels of sparsity, distributions of error terms, and different forms of error covariance matrix.
	Technical Skills: R with Gibbs sampling, high-performance compute cluster.
Dec 2019 – Mar 2020	**Growing Importance of Universities in US Innovation**
	Mentor: Tania Babina (Assistant Professor of Business, Columbia Business School).
	Created and implemented an algorithm identifying patents registered with U.S. academic institutions with higher accuracy and generalization compared to the National Bureau of Economic Research's algorithm.
	Technical Skills: SAS with regular expressions.

TEACHING EXPERIENCE

Teaching Associate

Department of Statistics & Data Science, University of California Los Angeles

Fall 2023, Spring 2024	STATS 13 - *Introduction to Statistical Methods for Life and Health Sciences* Instructors: Dale S. Kim, Hao Ho.
Winter – Summer 2023, Winter 2024	STATS 10 - *Introduction to Statistical Reasoning* Instructors: Bingling Wang, Kaiwen Jiang.

Teaching Assistant

Department of Statistics & Data Science, University of California Los Angeles

Summer – Fall 2022	STATS 10 - *Introduction to Statistical Reasoning* Instructors: Michael Tsiang, Bingling Wang.
Spring 2022	STATS 20 - *Introduction to Statistical Programming with R* Instructor: Vivian Lew.

Teaching Assistant

Department of Statistics, Columbia University in the City of New York

Summer 2021	STAT S1201 - *Calculus Based Introduction to Statistics* Instructor: David Rios.

MENTORSHIP AND SERVICE

Mar 2020 – Apr 2020	**Response4Life (Volunteer)** Monitored and extracted information about hospital-level deaths and cases, demands on face shields and ventilators or PPE, and donations in the tri-state area from appropriate news resources.

GRANTS AWARDED

2023	Division of Graduate Education (DGE) Block Grant (University of California Los Angeles)