DANIEL XIANG

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ACADEMIC APPOINTMENT

Assistant Instructional Professor, *University of Chicago* September 2023 – Present.

EDUCATION

PhD in Statistics, *University of Chicago* September 2017 – August 2023.
Advisors: Chao Gao and Peter McCullagh

ScB in Applied Mathematics, *Brown University* September 2013 – May 2017.
Academic advisor: Bjorn Sandstede

PUBLICATIONS

Battey, H., McCullagh, P. , & Xiang, D., (2025) Non-standard boundary behaviour in binary mixture models. Arxiv.

Xiang, D., Soloff, J. A., & Fithian, W. (2025). A frequentist local false discovery rate. *To appear in Biometrika.* Arxiv.

Xiang, D., Ignatiadis, N., & McCullagh, P. (2025). Interpretation of local false discovery rates under the zero assumption. *To appear in Statistical Science.* Arxiv

Xiang, D. & Gao, C. (2025). Sharp phase transitions in high-dimensional changepoint detection. *To appear in Bernoulli.* Arxiv.

Tresoldi, M., Xiang, D., & McCullagh, P. (2024). Sparse-limit approximation for t-statistics. *Electronic Journal of Statistics.* Journal. Arxiv.

Soloff, J. A., Xiang, D., & Fithian, W. (2024). The edge of discovery: Controlling the local false discovery rate at the margin. *Annals of Statistics.* Journal. Arxiv.

Xiang, D. & McCullagh, P. (2020). Permanental Graphs. Arxiv.

RESEARCH INTERESTS

Empirical Bayes, Multiple hypothesis testing, Selective inference

AWARDS

Magna cum laude (Brown University, Spring 2017).

Rohn Truell Prize in Applied Math (Brown University, Spring 2017).

First place team, Citadel Datathon at UC Berkeley, Autumn 2017

Phi Beta Kappa, (Brown University, Spring 2016).

TEACHING EXPERIENCE

UChicago 2017 – Present.

Statistical Methods and Applications (**Instructor**, Spring 2020, Spring 2024, Winter 2025, Spring 2025).

Applied Regression Analysis (**Instructor**, Autumn 2023, Winter 2024, Autumn 2025*)

Hypothesis testing with Empirical Bayes (**Instructor**, Winter 2024, Winter 2025, Autumn 2025*).

Statistical Models and Methods (**Instructor**, Spring 2022, Autumn 2022, Autumn 2024).

PhD qualifying exam preparation (**Coach**, Summer 2022).

Statistical Theory and Methods (**TA**, Winter 2021), taught by Professor Rina Barber.

Bayesian Data Analysis (**TA**, Spring 2021), taught by Professor Fei Liu.

*Currently teaching

GRADUATE-LEVEL COURSEWORK

Statistical consulting; applied statistics; theoretical statistics; probability theory; statistical learning theory; topics in selective inference; Bayesian nonparametrics; convex optimization; recent applications of probability and statistics; stochastic processes; measure theory; functional analysis

TALKS

1. Interpretation of local false discovery rates under the zero assumption. *The 13th International Conference on Multiple Comparison Procedures*, August 2025.
2. A frequentist local false discovery rate. *International Seminar on Selective Inference*, February 2025.
3. FDR at the boundary. *IMS International Conference on Statistics and Data Science (Nice, France)*, December 2024.
4. Frequentist local false discovery rates. *Tel Aviv University Statistics Seminar,* April 2023.
5. A frequentist perspective on the local false discovery rate. *The 12th International Conference on Multiple Comparison Procedures*, August 2022.