Anirban Chatterjee

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Employment

William H. Kruskal Instructor, *Department of Statistics, The University of Chicago.*
Chicago, Illinois, United States.
August 2025-present.

Education

Ph.D. in Statistics, *The Wharton School, University of Pennsylvania, Philadelphia, United States.*
Graduated: 2025.
Advisor: Bhaswar B. Bhattacharya.

Master of Statistics, *Indian Statistical Institute, Kolkata, India.*
Graduated: 2020.
First Division with Distinction, Specialization: Probability.

Bachelor of Statistics (Hons.), *Indian Statistical Institute, Kolkata, India.*
Graduated: 2018.
First Division with Distinction.

Publications

Journal Publications

- **Anirban Chatterjee**, Jiaoyang Huang. Fluctuation of the Largest Eigenvalue of a Kernel Matrix with application in Graphon-based Random Graphs. *The Annals of Applied Probability, Volume 35, No. 6, 4244-4281, 2025.*
- **Anirban Chatterjee**, Bhaswar B. Bhattacharya. Boosting the Power of Kernel Two-Sample Tests. *Biometrika, Volume 112, Issue 1, 2025.*
- **Anirban Chatterjee**, Sagnik Nandy, Ritwik Sadhu. Detecting Planted Partition in Sparse Multilayer Networks. *Information and Inference: A Journal of the IMA, Volume 13, Issue 3, 2024.*
- Bhaswar B. Bhattacharya, **Anirban Chatterjee**, Svante Janson. Fluctuations of Subgraph Counts in Graphon based Random Graphs. *Combinatorics, Probability and Computing, Volume 32, Issue 3, 2023.*
- **Anirban Chatterjee**, Rajat Subhra Hazra. Spectral Properties for the Laplacian of a Generalized Wigner matrix. *Random Matrices: Theory and Applications, Volume 11, No. 03, 2022.*

Conference Publications

- Abhinav Chakraborty, **Anirban Chatterjee**, Abhinandan Dalal. PrIsing: Privacy-Preserving Peer Effect Estimation via Ising Model. *In Proceedings of The 27th International Conference on Artificial Intelligence and Statistics (AISTATS), PMLR 238:2692-2700, 2024.*

Preprints

- Sayak Chatterjee, **Anirban Chatterjee**, Abhinav Chakraborty, Bhaswar B. Bhattacharya. Asymptotic Normality of Subgraph Counts in Sparse Inhomogeneous Random Graphs. *arXiv:2512.12937, 2025.*

- **Anirban Chatterjee**, Aaditya Ramdas. A Martingale Kernel Two-Sample Test. *arXiv:2510.11853, 2025.*
- **Anirban Chatterjee**, Sayantan Choudhury, Rohan Hore. One-shot Conditional Sampling: MMD meets Nearest Neighbors. *arXiv:2509.25507, 2025.*
- **Anirban Chatterjee**, Ziang Niu, Bhaswar B. Bhattacharya. A Kernel-Based Conditional Two-Sample Test Using Nearest Neighbors (with Applications to Calibration, Regression Curves, and Simulation-Based Inference). *arXiv:2407.16550, 2024.*
- **Anirban Chatterjee**, Soham Dan, Bhaswar B. Bhattacharya. Higher-Order Graphon Theory: Fluctuations, Degeneracies, and Inference. *arXiv:2404.13822, 2024* (Major revision at *The Annals of Statistics*).

Teaching and Mentoring

Instructor, The University of Chicago.

- Winter 2026 - Kernel Methods in Statistics and Machine Learning (STAT 37779).

Teaching Assistant, The Wharton School, University of Pennsylvania.

- Fall 2023 - Mathematical Statistics (STAT 4320).
- Fall 2022 - Statistical Methodology (STAT 9610).
- Spring 2022 - Mathematical Statistics (STAT 432).

Graduate Mentor, *Undergraduate Research in Probability and Statistics (URPS)*, University of Pennsylvania, 2022.

Awards & Honors

- **Best Student Paper Award in Probability and Theory of Statistics & Data Science**, International Indian Statistical Association, 2024.
- **J. Parker Bursk Award for Excellence in Research**, University of Pennsylvania, 2024.
- **George James Term Fund for The Bernoulli-IMS 11th World Congress in Probability and Statistics**, University of Pennsylvania, 2024.
- **Nominated for the Lawrence D. Brown Student Paper Award**, University of Pennsylvania, 2023.
- **George James Term Fund for the Joint Statistical Meetings**, University of Pennsylvania, 2023.
- **Nominated for the Prasanta Chandra Mahalanobis Gold Medal**, Indian Statistical Institute, 2020.
- **Dean's List for Toppers**, Indian Statistical Institute, 2016 – 2020.

Industry Experience

Project Team Member, TCS ion, *Form and Performance Analytics for Large Scale Online Assessments, 2017.*

- Collaborated with a multidisciplinary team to design and implement performance analytics for large-scale online assessment platforms used by educational institutions.
- Conducted in-depth statistical analysis on assessment data, identifying key metrics to evaluate student performance across various parameters.
- Presented findings and insights to senior management, contributing to strategic decisions on improving efficacy of online assessments.

Professional Service

- Reviewer for Journals: *The Annals of Statistics*, *Journal of the Royal Statistical Society: Series B*, *Journal of the American Statistical Association*, *Information and Inference: A Journal of the IMA*, *Bernoulli*, *Stochastic Processes and their Applications*, *Annales de l'Institut Henri Poincaré*, *Journal of Business and Economic Statistics*.

Technical Skills

- **Programming Languages**: R, Python.
- **Tools and Software**: LaTeX.

Conferences & Workshops

Recent Advances in Random Networks: Theory and Applications, IMSI, *Chicago, USA, 2026.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

Workshop on Uncertainty Quantification and Reliability, IDEAL Special Program on High Dimensional and Complex Data Analysis, *Evanston, USA, 2025.*

- Topic: Detecting Miscalibration: A Nearest Neighbor Approach.

Annual Conference of International Indian Statistical Association, *Cochin, India, 2024.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

Bernoulli-IMS 11th World Congress in Probability and Statistics, *Bochum, Germany, 2024.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

ICSA-Canada Chapter 2024 Symposium *Niagra Falls, Canada, 2024.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

Lawrence D. Brown Student Workshop, University of Pennsylvania, *Philadelphia, USA, 2023.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

Joint Statistical Meeting, *Toronto, Canada, 2023.*

- Topic: Clustering Network Vertices in Sparse Contextual Multilayer Networks.

ASU Seminar, Indian Statistical Institute, *Kolkata, India, 2023.*

- Topic: Higher Order Graphon Theory: Fluctuations and Inference.

IMS Annual Meeting, *London, UK, 2022.*

- Topic: Fluctuations of Subgraph counts in Graphon based Random Graphs.

P.C.M. Gold Medal Presentation, Indian Statistical Institute, *Kolkata, India, 2020.*

- Topic: Graphon Estimation.