# Anirban Chatterjee

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## **Employment**

William H. Kruskal Instructor, Department of Statistics, The University of Chicago. Chicago, 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. arXiv:2401.01866, 2024 (Accepted at The Annals of Applied Probability).
- Anirban Chatterjee, Bhaswar B. Bhattacharya. Boosting the Power of Kernel Two-Sample Tests. Biometrika, 2024.
- 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**

• 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

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: Journal of the American Statistical Association, Biometrika, The Annals of Applied Probability, Bernoulli, Stochastic Processes and their Applications, Annales de l'Institut Henri Poincaré.

### Technical Skills

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

## Conferences & Workshops

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.