

Anirban Chatterjee

Curriculum Vitae

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🐙 Github in LinkedIn

Education

2020–present **Ph.D.**, Department of Statistics and Data Science, The Wharton School, University of Pennsylvania, Philadelphia, United States.

Advisor: Prof. Bhaswar B. Bhattacharya, **Expected Graduation:** 05/2025

2018–2020 **Master of Statistics**, Indian Statistical Institute, Kolkata, India.

First Division with Distinction, Specialization: Probability

2015–2018 **Bachelor of Statistics**, Indian Statistical Institute, Kolkata, India.

First Division with Distinction

Publications

Journal Publications

2024 **Anirban Chatterjee**, Sagnik Nandy, and Ritwik Sadhu. Detecting planted partition in sparse multilayer networks. *Information and Inference: A Journal of the IMA*, 2024.

2023 Bhaswar B Bhattacharya, **Anirban Chatterjee**, and Svante Janson. Fluctuations of subgraph counts in graphon based random graphs. *Combinatorics, Probability and Computing*, 2023.

2022 **Anirban Chatterjee** and Rajat Subhra Hazra. Spectral properties for the Laplacian of a generalized Wigner matrix. *Random Matrices: Theory and Applications*, 2022.

Conference Publications

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

Preprints

2024 **Anirban Chatterjee**, Ziang Niu, and Bhaswar B Bhattacharya. A Kernel-Based Conditional Two-Sample Test Using Nearest Neighbors (with Applications to Calibration, Regression Curves, and Simulation-Based Inference). *arXiv e-prints*, 2024.

2024 **Anirban Chatterjee** and Jiaoyang Huang. Fluctuation of the Largest Eigenvalue of a Kernel Matrix with application in Graphon-based Random Graphs. *arXiv e-prints*, 2024.

2024 **Anirban Chatterjee**, Soham Dan, and Bhaswar B. Bhattacharya. Higher-Order Graphon Theory: Fluctuations, Degeneracies, and Inference. *arXiv e-prints*, 2024.

2023 **Anirban Chatterjee** and Bhaswar B Bhattacharya. Boosting the Power of Kernel Two-Sample Tests. *arXiv e-prints*, 2023. (Revision requested at Biometrika).

Ongoing Projects

- 2024+ *A New Measure for Conditional Mean Independence with Application in Variable Selection.*
Joint work with: Bhaswar B. Bhattacharya, Ziang Niu
- 2024+ *Difference in Difference method analysis using Quadruple Matching.*
Joint work with: Bhaswar B. Bhattacharya, Siyu Heng, Hannah A. Jin, Bikram Karmakar and Dylan Small
- 2024+ *Asymptotic Relative Efficiency of Kernel-Based Two Sample Tests.*
Joint work with: Bhaswar B. Bhattacharya, Nabarun Deb, Bodhisattva Sen
- 2024+ *Asymptotics of Pattern Density in Random Permutations.*
Joint work with: Bhaswar B. Bhattacharya, Sayan Das, Sumit Mukherjee
- 2024+ *BBP Phase Transition in the eigenvalues of Random Kernel Matrices.*
Joint work with: Jiaoyang Huang, David Kogan, Sagnik Nandy

Research Internship

- 2019 *Optimal Transport in Minimax Estimation and Dimension Reduction, Columbia University in the City of New York.*
Advisor : **Prof. Bodhisattva Sen**, Department of Statistics, Columbia University, New York, USA

Industry Experience

- 2017 *Form and Performance Analytics for Large Scale Online Assessments.*
Position : Project team member, TCS ion

Professional Service

- 2022-present **Reviewer for Journals.**
Journal of the American Statistical Association, Annals of Applied Probability, Biometrika, Bernoulli.

Talks, Conferences and Workshop

- 2024 *Bernoulli-ims 11th World Congress in Probability and Statistics*, Bochum, Germany.
Topic: Higher Order Graphon Theory: Fluctuations and Inference.
- 2024 *Lawrence D. Brown Student Workshop*, Philadelphia, USA.
Topic: Higher Order Graphon Theory: Fluctuations and Inference.
- 2023 *Joint Statistical Meeting*, Toronto, Canada.
Topic: Clustering Network Vertices in Sparse Contextual Multilayer Networks.
- 2023 *ASU Seminar*, Indian Statistical Institute, Kolkata, India.
Topic: Higher Order Graphon Theory: Fluctuations and Inference.
- 2022 *IMS Annual Meeting*, London, UK.
Topic: Fluctuations of Subgraph counts in Graphon based Random Graphs.

2020 *P.C.M. Gold Medal Presentation*, Indian Statistical Institute, Kolkata, India.
Topic: Graphon Estimation.

Programming Languages

R, Python, C

Teaching and Mentoring

2023 *Teaching Assistant*, The Wharton School, University of Pennsylvania.
STAT 432 - Mathematical Statistics

2022 *Teaching Assistant*, The Wharton School, University of Pennsylvania.
STAT 961 - Statistical Methodology, STAT 432 - Mathematical Statistics

2022 *Undergraduate Research in Probability and Statistics*, University of Pennsylvania.
Position: Graduate Mentor
Topic: Inhomogeneous W-random Graphs

Fellowships & Awards

2016 – 2020 *Dean's List for Toppers* at Indian Statistical Institute, Kolkata