

Abhinav Chakraborty

EDUCATION

- 2025– **Founder's Postdoc**, Department of Statistics, Columbia University.
- 2020–2025 **Doctor of Philosophy in Statistics**, The Wharton School, University of Pennsylvania.
Advisor: [T. Tony Cai](#)
- 2018–2020 **Master of Statistics**, Indian Statistical Institute. **Specialization: Probability**.
Ranked 1 in M.Stat, passed in First Division with Distinction
- 2015–2018 **Bachelor of Statistics (Honours)**, Indian Statistical Institute.
Ranked 1 in B.Stat, Passed in First Division with Distinction.

PUBLICATIONS

- 2026 **Optimal differentially private ranking from pairwise comparisons** (Published at **Journal of the American Statistical Association**) [[Arxiv](#)] [[Journal](#)]
T. Tony Cai*, [Abhinav Chakraborty](#)*, Yichen Wang* (*alphabetical order)
- 2025 **Minimax and adaptive transfer learning for nonparametric classification under distributed differential privacy constraints** (Published at **Journal of the Royal Statistical Society: Series B**) [[Arxiv](#)] [[Journal](#)] [[Supplement](#)]
Arnab Auddy*, T. Tony Cai*, [Abhinav Chakraborty](#)* (*alphabetical order)
- 2025 **When Data Can't Meet: Estimating Correlation Across Privacy Barriers** (Published at **NeurIPS 2025** (Spotlight)) [[OpenReview](#)]
[Abhinav Chakraborty](#), Arnab Auddy, T. Tony Cai
- 2024 **Reconciling model-X and doubly robust approaches to conditional independence testing** (Published at **Annals of Statistics**) [[Arxiv](#)][[Journal](#)]
Ziang Niu*, [Abhinav Chakraborty](#)*, Oliver Dukes, Eugene Katsevich (*equal contribution)
- 2024 **PrIsing: Privacy-Preserving Peer Effect Estimation via Ising Model**
(Published at **AISTATS 2024**) [[Arxiv](#)] [[PMLR](#)]
[Abhinav Chakraborty](#), Anirban Chatterjee, Abhinandan Dalal

PREPRINTS

- 2026 **Stability and Accuracy Trade-offs in Statistical Estimation** [[Arxiv](#)]
[Abhinav Chakraborty](#)*, Yuetian Luo*, Rina Foygel Barber (*equal contribution)
- 2026 **Comparing three learn-then-test paradigms in a multivariate normal means problem** [[Arxiv](#)] [Abhinav Chakraborty](#)*, Junu Lee*, Eugene Katsevich (*equal contribution)
- 2025 **The Cost of Adaptation under Differential Privacy: Optimal Adaptive Federated Density Estimation** [[Arxiv](#)]
Tony Cai*, [Abhinav Chakraborty](#), Lasse Vuursteeen (*alphabetical order)
- 2025 **Asymptotic Normality of Subgraph Counts in Sparse Inhomogeneous Random Graphs** [[Arxiv](#)] Sayak Chatterjee, Anirban Chatterjee, [Abhinav Chakraborty](#), Bhaswar B. Bhattacharya
- 2024 **Optimal Federated Learning for Functional Mean Estimation under Heterogeneous Privacy Constraints** (Under Major Revision at **JRSSB**) [[Arxiv](#)]
Tony Cai*, [Abhinav Chakraborty](#), Lasse Vuursteeen (*alphabetical order)

- 2024 **Optimal Federated Learning for Nonparametric Regression with Heterogeneous Distributed Differential Privacy Constraints** (Under Minor Revision at **JASA**) [[Arxiv](#)]
 Tony Cai*, Abhinav Chakraborty, Lasse Vuursteeen (*alphabetical order)
- 2024 **Doubly robust and computationally efficient high-dimensional variable selection** [[Arxiv](#)]
Abhinav Chakraborty*, Jeffrey Zhang*, Eugene Katsevich (*equal contribution)
- 2023 **Federated Nonparametric Hypothesis Testing with Differential Privacy Constraints: Optimal Rates and Adaptive Tests** [[Arxiv](#)]
 Tony Cai*, Abhinav Chakraborty, Lasse Vuursteeen (*alphabetical order)
- 2023 **PriME: Privacy-aware Membership profile Estimation in networks** (Under Major Revision at **SIMODS** [[Arxiv](#)])
Abhinav Chakraborty, Sayak Chatterjee, Sagnik Nandy
- 2020 **High dimensional PCA: a new model selection criterion** [[Arxiv](#)]
Abhinav Chakraborty, Soumendu Sundar Mukherjee, Arijit Chakrabarti

AWARDS AND HONORS

- 2025 **IMS Travel Award**, for the 2025 *Frontiers in Statistical Machine Learning (FSML) Workshop*.
- 2025 **Travel Award**, for the *Optimization and Statistical Learning Workshop*, Columbia University.
- 2024 **Lawrence D. Brown Best Student Paper Award**, Wharton School, University of Pennsylvania.
- 2022 & 2024 **George James Term Award**, for the 2022 and 2024 IMS Annual Meeting.
- 2020 **ISI Alumni Association J.K. Ghosh Memorial Gold Medal**, Top scorer in M.Stat program.
- 2020 **PCM Gold Medal**, Outstanding M.Stat student for best Master's Dissertation.
- 2018 **ISI Alumni Association Mrs. M. R. Iyer Memorial Gold Medal**, Top scorer in B.Stat program.
- 2018 **Nikhilesh Bhattacharya Gold Medal**, Highest marks in Statistics for B.Stat (Hons.) Program.
- 2015 **INSPIRE Scholarship**, Awarded to top 1% students in Indian School Certificate (ISC) Examination.
- 2013 **Qualified for Indian National Mathematics Olympiad (INMO) 2014** as a top-30 candidate in the Regional Mathematics Olympiad (RMO).

TALKS

- 2025 **IISA Conference** in Lincoln (NE), Invited Talk on Federated Transfer Learning.
- 2024 **IMS Annual Meeting**, Bochum, Germany on *Federated Non-parametric Regression* [[Slides](#)]
- 2023 **PhD Student Seminar**, University of Pennsylvania on *Optimal Distributed Private Estimators* [[Slides](#)]
- 2022 **IMS Annual Meeting**, London, UK on *High Dimensional PCA* [[Slides](#)]
- 2020 **P.C. Mahalanobis Gold Medal Presentation**, Indian Statistical Institute, on *Model Selection in High Dimensional PCA* [[Slides](#)]
- 2018 **D. Basu Memorial Presentation**, Indian Statistical Institute, on *MCMC Methods in Bayesian Inference* [[Slides](#)]

TEACHING AND MENTORING

- 2021–24 **Teaching Assistant**: The Wharton School, The University of Pennsylvania, Philadelphia
 Courses: Introduction to Probability (STAT 4300), Probability Theory (MATH 6480), Mathematical Statistics (STAT 971), Applied Econometrics (STAT 520)
- 2023 **PhD Peers Program**: The Wharton School, The University of Pennsylvania, Philadelphia
 Mentored an incoming Wharton PhD student in navigating the program and transitioning to Penn.