

Soham Jana

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Research Interests

Theoretical and algorithmic aspects of mixture modelling, high-dimensional statistics, dependent data analysis, sparse recovery.

Education

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| PhD. in Statistics and Data Science,
Yale University, New Haven, CT, USA
Thesis: Inference with dependent and independent data
Advisor: Yihong Wu | 2017–2022 (expected) |
| Master of Statistics (Hons.) (First class with Distinction)
Indian Statistical Institute, Kolkata, West Bengal, India
Specialization: Theoretical Statistics
Dissertation: Characterization of single integral non-kernel divergences
Advisor: Ayanendranath Basu | 2015–2017 |
| Bachelor of Statistics (Hons.) (First class with Distinction)
Indian Statistical Institute, Kolkata, West Bengal, India | 2012–2015 |

In preparation

1. Soham Jana, Yury Polyanskiy, and Yihong Wu. **Regret optimality of minimum distance based empirical Bayes methods for the Poisson model.**

Publications and preprints (Authors lists that are not in alphabetical order denoted by “*”)

1. Soham Jana, Henry Li, Yutaro Yamada, and Ofir Lindenbaum. **Support Recovery with Stochastic Gates: Theory and Application for Linear Models.** arXiv preprint arXiv: 2110.15960 (2021).
2. Yanjun Han, Soham Jana, and Yihong Wu. **Optimal prediction of Markov chains with and without spectral gap.** NeurIPS 2021.
3. Soham Jana, Yury Polyanskiy, and Yihong Wu. **Extrapolating the profile of a finite population.** In Conference on Learning Theory 2020 Jul 15 (pp. 2011-2033). PMLR.
4. Soham Jana and Ayanendranath Basu.* **A characterization of all single-integral, non-kernel divergence estimators.** IEEE Transactions on Information Theory 65.12 (2019): 7976-7984.

Honors and Awards

INSPIRE Scholarship, Govt. of India	2012-2017
Indian National Mathematical Olympiad (INMO) merit certificate (For being among top 75 in the country)	2012

Graduate teaching assistance

Stochastic processes S&DS 351–551/EENG 434/ENAS 502 Instructor: Joseph Chang	Spring 2021
Information Theory S&DS 364–664/EENG 454 Instructor: Andrew Barron	Fall 2020
Probability Theory S&DS 241–541 Instructor: Winston Lin	Fall 2019
Advanced Probability S&DS 400–600/Math 600 Instructor: Sekhar Tatikonda	Spring 2019
Statistical Inference S&DS 410–610 Instructor: Zhou Fan	Fall 2018

Languages

R, Python

References

Yihong Wu

Associate Professor,
Statistics and Data Science,
Yale University
New Haven, CT, USA

Andrew Barron

Charles C. and Dorothea S. Dilley Professor
of Statistics & Data Science,
Yale University,
New Haven, CT, USA

Yury Polynskiy

Associate Professor,
Electrical Engineering and Computer Science,
Massachusetts Institute of Technology
Cambridge, MA, USA