

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

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