

# Soham Jana

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## Research Interests

Theoretical and algorithmic aspects of Empirical Bayes, minimum distance estimation, estimation on Markov chains

## Education

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

**Publications** (Authors lists that are not in alphabetical order are denoted with “\*”).

1. Yanjun Han, Soham Jana, and Yihong Wu. **“Optimal prediction of Markov chains with and without spectral gap”**. NeurIPS 2021.
2. 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.
3. 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 2012  
(For being among top 75 in the country)

## 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

## Social activities

- **Treasurer and Board member** June 2018–March 2021  
South Asian Graduate and Professional Association (SAGA)  
Yale University, New Haven, CT, USA
- **Graphics designer** June 2018–June 2020  
South Asian Graduate and Professional Association (SAGA)  
Yale University, New Haven, CT, USA
- **Graphics designer** June 2015–June 2017  
Integration (Annual techno-cultural-sports fest)  
Indian Statistical Institute, Kolkata, West Bengal, India.

## 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