

Soham Jana

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New Haven, CT-06511

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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 (Author list in alphabetical order of surnames, unless mentioned otherwise)

1. Yanjun Han, Soham Jana, and Yihong Wu. “**Optimal prediction of Markov chains with and without spectral gap**”. Submitted to NeurIPS 2021. <https://arxiv.org/abs/2106.13947>
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. (First author)

Preprints (Author list in alphabetical order of surnames, unless mentioned otherwise)

1. Soham Jana, Yury Polyanskiy, and Yihong Wu. “**Regret optimality of minimum distance methods in certain Poisson empirical Bayes problems**”.
2. Soham Jana, Henry Li, Ofir Lindenbaum, and Yutaro Yamada. “**On consistency of stochastic gates in sparsed support recovery problems**”.

Honors and Awards

INSPIRE Scholarship, Govt. of India 2012-2017

Graduate teaching assistance

Stochastic processes Spring 2021

S&DS 351–551/EENG 434/ENAS 502

Instructor: Joseph Chang

Information Theory Fall 2020

S&DS 364–664/EENG 454

Instructor: Andrew Barron

Probability Theory Fall 2019

S&DS 241–541

Instructor: Winston Lin

Advanced Probability Spring 2019

S&DS 400–600/Math 600

Instructor: Sekhar Tatikonda

Statistical Inference Fall 2018

S&DS 410–610

Instructor: Zhou Fan

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