# Arnab Auddy

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## Education

**Columbia University** — New York, USA
Ph.D. in Statistics, Advisor: Ming Yuan — Fall 2018–Current

**Indian Statistical Institute** — Kolkata, India
M.Stat., with Distinction — 2016–2018
- Specialization: Theoretical Statistics

**Indian Statistical Institute** — Kolkata, India
B.Stat., with Distinction — 2013–2016

## Objective

I am broadly interested in developing methods for analysing complex and high dimensional data. My current theoretical research is on low rank approximation of noisy tensors and their application to latent variable models. At the same time I am actively looking for interesting data applications of these methods.

## Some Ongoing and Past Projects

- Tractable estimation of Orthogonally decomposable tensors — 2020
  with Dr. Ming Yuan (Columbia University)
- Identifying Vulnerability Indices for COVID spread in India — 2020
  with Rupam Bhattacharyya, Subha Maity and Dr. Veerabhadran Baladandayuthapani (University of Michigan)
- Testing Significance of Regression Coefficients in High Dimensions — 2018
  with Dr. Probal Chaudhuri (ISI Kolkata)
- Approximate Markov Chain Lumpability using Local Graph Automorphisms — 2017
  with Dr. Wasiur Khudabukhsh, Dr. Yann Disser and Dr. Heinz Koeppl (TU Darmstadt)

## Publications

1. **Auddy, A.**, & Yuan, M. (2020). Perturbation Bounds for orthogonally decomposable tensors and their applications in high dimensional data analysis. *arXiv preprint arXiv:2007.09024*
2. KhudaBukhsh, W. R., **Auddy, A.**, Disser, Y., & Koeppl, H. (2018). Approximate lumpability for Markovian agent-based models using local symmetries. *Journal of Applied Probability*, 56 (3), 647-671.

## Talks

- 'Perturbation Bounds for Odeco Tensors', JSM 2020 (virtual)

## Skills

- **Statistical softwares:** advanced R, intermediate Python

## Teaching Assistantship

I have been the teaching assistant on the following courses. My responsibilities included helping students with coursework and software applications, as well as grading and holding recitation sessions.

- Linear Regression Models (Master's level) — Fall 2020
- Generalized Linear Models (Master's level) — Spring 2020
- Bayesian Statistics (Master's level) — Fall 2019
- Nonparametric Statistics (Master's level) — Spring 2019
- Probability and Inference (Master's level) — Fall 2018

## Scholarships and Awards

- Ph.D. scholarship: Dean's fellow at Columbia University — 2018–2020
- Prize money for good academic performance in M.Stat. — 2017
- KVPY fellowship (stream SA), from Department of Science and Technology, Government of India — 2013–2018
- Ranked in the top 1 percent among 40721 students in National Standard Exam in Physics (NSEP) — 2013

## Other Details

- Participated in the SIAM Conference on Algebraic Geometry in Bern — July 2019
- Participated in workshop on 'Challenges in High-dimensional Data' at Columbia University — September 2018
- Runner up in the **CRISIL** Young Thought Leader Essay Competition — 2016
- Languages known: Fluent in English, Bengali and Hindi. Elementary knowledge of French.