AARADHYA PANDEY

A third year graduate student at Princeton University

✉ ap9898@princeton.edu | ⌂ https://orfe.princeton.edu/people/aaradhya-pandey | Nationality : Indian

Education

Princeton University (advised by Sanjeev Kulkarni) *New Jersey*

PhD in ORFE with Gordon Wu fellowship: 'awarded to the most outstanding incoming doctoral students in engineering' Sep. 2021 - present

Indian Institute of Science (IISc) *Bangalore*

BS in mathematics with CGPA 9.6/10 : discipline rank 1, was awarded the institute gold medal. Sep. 2017 - Jun. 2021

Research interests

Primary interests High dimensional probability and statistics, Threshold phenomena for statistical and algorithmic procedures

Current projects Spectral method achieves weak recovery in Geometric block model.

Reconstruction thresholds for broadcasting on a hypertree

Previous projects Equality of singular values and eigenvalues of the product of Gaussian random matrices.

Exact recovery for Gaussian weighted stochastic block model: Statistical and algorithmic thresholds

Project experiences

Summer 2022 Worked under **Boris Hanin** on product of Gaussian random matrices, at Princeton.

Summer 2021 Worked under **Apoorva Khare** on matrix analysis and (total) positivity, Kadison-Singer problem at IISc.

Summer 2020 Reading course on Random matrix theory under **Manjunath Krishnapur** at IISc, DAAD fellowship.

Summer 2019 Studied random graphs under **Anirban Basak** at ICTS Bangalore, under SN Bhatt fellowship.

Summer 2018 Completed a reading project in quantum computation under **Subroto Mukerjee** at IISc.

Select coursework

Princeton University *New Jersey*

Discrete probability, Probability in high dimensions, Stochastic calculus, Probabilistic methods, Deep learning theory Sep. 2021 - present

Indian Institute of Science (IISc) *Bangalore*

Probability theory, Brownian motion, Rigorous statistical mechanics, Gaussian processes, Functional analysis Sep. 2017 - Jun. 2021

Fellowships

2021 – 2026	Gordon Wu fellow : Awarded to the most outstanding incoming doctoral students in engineering	*Princeton*
Summer 2020	DAAD WISE : Prestigious fellowship for a funded summer project in Germany	*Bonn*
Summer 2019	SN Bhatt fellow: For a summer project at the International centre for theoretical sciences	*Bangalore*
Summer 2019	IAS fellow: Indian academy of sciences fellowship for a summer project at TIFR	*Mumbai*
2017 – 2021	KVPY fellow : Prestigious fellowship program for Indian students interested in science	*Bangalore*

Achievements

CSIR NET 2020	Cleared with an all India rank 1 – invited for the SPM fellowship, entrance exam for PhD programs in India
IIT JEE 2017	Cleared with an all-India rank of 305 (out of roughly 1 million participants)
JEE Mains 2017	Cleared with an all-India rank of 272 (out of roughly 1 million participants)
Madhava exam	Among the top ten students in the country, a math test for UG students, conducted by TIFR

References

- **Sanjeev Kulkarni**, William R. Kenan, Jr., Professor of Electrical Engineering, ✉ kulkarni@princeton.edu