

# Rajita Chandak

ORFE, Princeton University – September 2, 2023

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## Education

### Princeton University

*Ph.D. in Operations Research and Financial Engineering*

Advisor: [Dr. Matias Cattaneo](#)

Research Interests: Mathematical statistics, theoretical machine learning, causal inference, econometrics.

Princeton, NJ, USA

2019–Present

### Princeton University

*M.A. in Operations Research and Financial Engineering*

Princeton, NJ, USA

2019–2021

### Brown University

*Sc.B. with Honors in Applied Mathematics-Economics*

Honors Thesis: *Energy-aware optimization of scalable load balancing strategies*

Advisor: [Dr. Kavita Ramanan](#).

Providence, RI, USA

2015–2019

### London School of Economics and Political Science

*Certificate*

Summer courses: The Political Economy of Public Policy and Introduction to Finance

London, England

2016

## Research

### Working Papers

#### Consistency of the high-dimensional EM algorithm

Joint work with [Matias Cattaneo](#) and [Jason Klusowski](#)

#### Variable importance for oblique regression trees

Joint work with [Matias Cattaneo](#) and [Jason Klusowski](#)

### Preprints

#### Convergence Rates of Oblique Regression Trees for Flexible Function Libraries

[arxiv:2210.14429](#)

Joint work with [Matias Cattaneo](#) and [Jason Klusowski](#)

R& R at Annals of Statistics

#### Boundary Adaptive Local Polynomial Conditional Density Estimators

[arxiv:2204.10359](#)

Joint work with [Matias Cattaneo](#), [Xinwei Ma](#) and [Michael Jansson](#)

R& R at Bernoulli

Companion software article: [arxiv:2204.10375](#)

## Software and Programming Skills

R packages: [lpcde](#)

Python packages: [lpcdensity](#), [rddensity](#)

Additional programming experience: Matlab, Mathematica, Julia, C++, STATA, Java, HTML, CSS

## Teaching Experience

### Graduate Assistant in Instruction

ORFE Department, Princeton University

CSML312: Research Projects in Data Science (Fall 2023),

ORF 498: Senior Independent Research Foundations (Fall 2023),

ORF 504: Financial Econometrics (Spring 2023),

ORF 524: Statistical Theory and Methods (Fall 2021, Fall 2022),

ORF 245: Fundamentals of Statistics (Fall 2020, Spring 2021).

Princeton, NJ

2020–Present

## Senior Thesis Writer's Group Co-Leader

ORFE Department, Princeton University

Support 4th year undergraduate students in the ORFE department with thesis research, development and writing.

Princeton, NJ

2020-2023

## Undergraduate Teaching Assistant

Applied Mathematics Department, Brown University

APMA1720: Monte Carlo Simulations with Applications to Finance (Spring 2019),

MPA2065: Intro. to Data Science for the Masters of Public Affairs program (Spring 2018),

APMA1650: Statistical Inference I (Fall 2017).

Providence, RI

2017 – 2019

## Work Experience

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### NSF Research Experience for Undergraduates (REU)

Award DMS 1757685

Worcester Polytechnic Institute

2018

### NSF Research Experience for Undergraduates (REU)

Award NSF 1559788

California State University, Chico

2017

## Awards

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### School of Engineering and Applied Science Award for Excellence

Princeton University

2022

## Conferences

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### Joint Statistical Meeting

Topic-contributed session on decision trees and random forests

Convergence Rates of Oblique Regression Trees for Flexible Function Libraries

Toronto, CA

August 2023

### Statistical foundations of data science and their applications

Princeton University

Local organizing committee member

Princeton, NJ

May 2023

### Jane Street

Graduate Research Fellowship Workshop

Convergence Rates of Oblique Regression Trees for Flexible Function Libraries

New York City, NY

April 2023

### Symposium for Undergraduates in Mathematical Sciences (SUMS)

Brown University

Delivered a talk based on research done during REU at CSU, Chico in 2018. Delivered a talk based on undergraduate honors thesis in 2019.

Providence, RI

2018, 2019

### Joint Mathematics Meeting

AMS, MAA

Presented research work done during REU at CSU, Chico in 2018. Presented results of research done during REU at WPI in 2019.

Baltimore, MD

2018, 2019

### Women in Mathematics in New England (WIMIN)

Smith College

Delivered a talk based on research done during REU at WPI.

Northampton, MA

September 2018

### MIST Workshop

WPI, Applied and Industrial Mathematics Institute for Secondary Teaching

Delivered a talk based on research done during REU at WPI.

Worcester, MA

July 2018

## Peer Review

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*Journal of the American Statistical Association, Econometric Theory, Operations Research, Journal of Causal Inference.*

## References

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Matias Cattaneo (cattaneo@princeton.edu)

Jason Klusowski (jason.klusowski@princeton.edu)

Jianqing Fan (jqfan@princeton.edu)