

Rajita Chandak

ORFE, Princeton University – January 10, 2024

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Education

Princeton University

Ph.D. in Operations Research and Financial Engineering (ORFE)

Advisor: [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 (ORFE)

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: [Kavita Ramanan](#).

Providence, RI, USA

2015–2019

London School of Economics and Political Science

Summer school certificate

London, England

2016

Research

Publications

Convergence rates of oblique regression trees for flexible function libraries

[arxiv:2210.14429](#)

Annals of Statistics, forthcoming

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

Boundary adaptive local polynomial conditional density estimators

[arxiv:2204.10359](#)

Bernoulli, forthcoming

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

Preprints

1pcde: Local polynomial conditional density estimation and inference

[arxiv:2204.10375](#)

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

Working Papers

Consistency of the EM algorithm in high dimensions

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

Adaptive Mondrian random forests

with [Matias Cattaneo](#), [Jason Klusowski](#) and [William Underwood](#)

A new variable importance metric for oblique regression trees

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

Teaching Experience

Graduate Assistant in Instruction

ORFE, Princeton University

ORF 499: Senior Thesis (Spring 2024),

SML 312: 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).

First-year Ph.D. general exam mentoring for ORF524 (2021).

Princeton, NJ

2020–Present

Senior Thesis Writer's Group Co-Leader

ORFE Department, Princeton University

Mentor 4th year undergraduate students in the ORFE department with thesis research and writing.

Princeton, NJ

2020–2023

Undergraduate Teaching Assistant

Department of Applied Mathematics, 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

Software and Programming Skills

R packages: [lpcde](#)

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

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

Awards

School of Engineering and Applied Science Travel Grant

2023

Princeton University

School of Engineering and Applied Science Award for Excellence

2022

Princeton University

Work Experience

NSF Research Experience for Undergraduates (REU)

Award DMS 1757685

Worcester Polytechnic Institute (WPI)

2018

NSF Research Experience for Undergraduates (REU)

Award NSF 1559788

California State University (CSU), Chico

2017

Conferences

Joint Statistical Meeting

Topic-contributed session on decision trees and random forests, Invited speaker

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, Invited speaker

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, Invited speaker

Talk based on research done during REU in 2018. Talk based on undergraduate honors thesis in 2019.

Providence, RI

2018, 2019

Joint Mathematics Meeting

AMS, MAA

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

Baltimore, MD

2018, 2019

Women in Mathematics in New England (WIMIN)

Smith College

Talk based on research done during REU at WPI.

Northampton, MA

September 2018

MIST Workshop

WPI, Applied and Industrial Mathematics Institute for Secondary Teaching

Talk based on research done during REU at WPI.

Worcester, MA

July 2018

Peer Review

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

References

Matias Cattaneo ORFE, Princeton University (cattaneo@princeton.edu)

Jason Klusowski ORFE, Princeton University (jason.klusowski@princeton.edu)

Jianqing Fan ORFE, Princeton University (jqfan@princeton.edu)