Rajita Chandak

ORFE, Princeton University – March 13, 2024

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Appointments

Bernoulli Instructor   **Lausanne, Switzerland**
Institute of Mathematics, École Polytechnique Fédérale de Lausanne (EPFL)   *2024–*

Education

Princeton University   **Princeton, NJ, USA**
Ph.D. in Operations Research and Financial Engineering (ORFE)   *2019–2024*
Advisor: Matias Cattaneo

Princeton University   **Princeton, NJ, USA**
M.A. in Operations Research and Financial Engineering (ORFE)   *2019-2021*

Brown University   **Providence, RI, USA**
Sc.B. with Honors in Applied Mathematics and Economics   *2015–2019*
Honors Thesis: *Energy-aware optimization of scalable load balancing strategies*
Advisor: Kavita Ramanan.

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

`lpcde`: **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   **Princeton, NJ**
ORFE, Princeton University   *2020-Present*
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).

Senior Thesis Writer's Group Co-Leader   **Princeton, NJ**
ORFE Department, Princeton University   *2020-2023*
Mentored 4th year undergraduate students in ORFE with thesis research and writing.

Undergraduate Teaching Assistant   **Providence, RI**
Department of Applied Mathematics, Brown University   *2017 – 2019*
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).

Awards

Bernoulli Instructorship   **2024**
École Polytechnique Fédérale de Lausanne (EPFL)

School of Engineering and Applied Science Travel Grant   **2023**
Princeton University

School of Engineering and Applied Science Award for Excellence   **2022**
Princeton University

Software and Programming Skills

R packages: **lpcde**
Python packages: **lpdensity**, **rddensity**
Additional programming experience: Matlab, Mathematica, Julia, C++, STATA, Java, HTML, CSS

Work Experience

NSF Research Experience for Undergraduates (REU)   **Worcester Polytechnic Institute (WPI), MA**
Award DMS 1757685   *2018*

NSF Research Experience for Undergraduates (REU)   **California State University (CSU), Chico, CA**
Award NSF 1559788   *2017*

Talks and Conferences

Joint Statistical Meeting   **Toronto, CA**
Invited speaker, Topic-contributed session on decision trees and random forests   *August 2023*

Statistical foundations of data science and their applications   **Princeton, NJ**
Princeton University   *May 2023*
Local organizing committee member

Jane Street   **New York City, NY**
Invited speaker, Graduate Research Fellowship Workshop   *April 2023*

Symposium for Undergraduates in Mathematical Sciences (SUMS)   **Providence, RI**
Invited speaker, hosted at Brown University   *2018, 2019*

Joint Mathematics Meeting   **Baltimore, MD**
AMS, MAA   *2018, 2019*

Women in Mathematics in New England (WIMIN)   **Northampton, MA**
Smith College   *September 2018*

MIST Workshop   **Worcester, MA**
WPI, Applied and Industrial Mathematics Institute for Secondary Teaching   *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)