Rahul Krishna

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Education

Ph.D., Mathematics, 2016
M.A., Mathematics, 2011
Columbia University
Advisor: Wei Zhang
Thesis: A new proof of the Waldspurger formula I. Published in *Algebra and Number Theory*, March 2019.

A.B., Mathematics, *magna cum laude*, 2010
Princeton University
Advisor: Peter Sarnak

Data Science Certificate, 2024
The Erdős Institute
Completed a 13-week data science and deep learning program for PhD alumni transitioning from academia. Coursework included advanced machine learning techniques, data visualization, and deep learning applications.

Projects

Lobbying to Stock Trades (Github)

- Developed a model to identify the influence of lobbying activity on stock trading of congresspeople.
- Technologies: Python, Pandas, Scikit-learn, and Pytorch to preprocess data and train models.
- Achieved a 30% increase in prediction accuracy compared to baseline models.

Skills

- **Programming Languages:** Python, MATLAB
- **Data Analysis:** Statistical analysis, machine learning, neural networks
- **Tools:** TensorFlow, Keras, Scikit-learn, Pandas, NumPy, Matplotlib, Qiskit
- **Other:** Cryptography, quantum computing, automorphic forms, algebraic geometry

Experience

Instructor of Mathematics and Postdoctoral Researcher
Brandeis University *September 2019 - June 2023*

- Developed and taught undergraduate and graduate courses, including: Introduction to Complex Analysis, Graduate Algebraic Geometry, Graduate Real Analysis, Introduction to Abstract Algebra, Introduction to Proofs.
- Served as advisor and supervisor for a Master's student on their honor's thesis. Mentored two PhD students and conducted weekly learning and mentorship meetings over four years, leading to successful thesis completions.
- Organized and led multiple seminars and learning groups for students and faculty, fostering a collaborative research environment during pandemic-era remote work.

Boas Assistant Professor
Northwestern University *September 2016 - August 2019*

- Taught and developed curriculum for undergraduate and graduate courses. Courses included: Differential Multivariable Calculus, PhD-level courses on the Relative Trace Formula and Modular Forms.
- Organized and led the Mathematics Department’s weekly number theory seminar. This required giving talks, organizing the annual seminar schedule, inviting speakers, and managing logistics for visiting speakers.
- Co-organized the conference ”Geometric methods in number theory and representation theory” at Northwestern University, attended by 50+ people from 20+ universities.