Karan Srivastava

karansrivastava.com
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EDUCATION

UNIV. OF WISCONSIN MADISON
PhD in Mathematics, CS Minor
Aug 2025 | Madison, WI
Cum. GPA: 3.63 / 4.0
Research | Machine Learning, Data Science, Algebraic Geometry

UNIV. OF ILLINOIS URBANA-CHAMPAIGN
BSc in Mathematics
May 2020 | Urbana, IL
Magna Cum Laude w/ Highest Distinction
Cum. GPA: 3.97 / 4.0

MATH IN MOSCOW
Study Abroad
May 2018 | Moscow, Russia

LINKS

Website:// **karansrivastava.com**
Github:// **ksrivastava1**
LinkedIn:// **ksrivastava1**

COURSEWORK

GRADUATE - CS
Mathematical forundations of Machine Learning
Matrix Methods in Machine Learning
Neural Networks
Nonlinear Optimization

GRADUATE - MATH
Topics in Mathematical Data Science
Probability Theory
Applied Algebra
Algebraic Geometry
Abstract Algebra
Topics in Algebra
Representation Theory
Ring Theory
Algebraic Topology

SKILLS

PROGRAMMING
Proficient:
Python • Tensorflow • Pytorch • Pandas
Keras • Java • LaTeX
Intermediate
C • C++ • CSS • HTML
Familiar
R • SQL

PROJECTS AND EXPERIENCE

ERDÖS INSTITUTE | Data Science Bootcamp + Project
May 2022 - July 2022
- Participated in a **Data Science bootcamp** held by the Erdös Institute at Ohio State University.
- Completed challenging coursework and problem sessions in building and coding regression models, deep and convolutional neural networks, and other areas of data science and ML.
- For the final project, worked with the "What's Cooking?" dataset from Kaggle.
- Used dimensionality reduction and clustering analyses to determine similarity between cuisines based on their ingredients.
- Worked on Random Forest, Linear SVC, and other classification models achieving an accuracy of $\approx 80\%$.
- Project presentation and code base can be found at **this page**.

RESEARCH

UNIVERSITY OF WISCONSIN - MADISON | Researcher
August 2021 - July 2021 | Madison, WI
Worked with **Prof Daniel Alarcon** on bounding a novel method of **reconstructing linear data** in a robust way with noise and published findings at the **ISIT 2022**. Slides can be found **here**

ILLINOIS GEOMETRY LAB | Undergraduate Researcher
Mar 2012 – May 2013 | Ithaca, NY
Work on projects in Elliptic Curves, Symplectic Manifolds, and Modeling host-parasite interactions in evolutionary biology with **Prof Dominic Culver**, **Prof Susan Tolman**, and **Prof Zoi Rapti**. Posters can be found **here** and **here**

MENTORSHIP

UNIVERSITY OF WISCONSIN - MADISON | Teaching Assistant
Aug 2020 - Present | Madison, WI
Taught courses in Business Calculus*, Calculus 2*, Discrete Mathematics* at the UW Math Department and gained experience explaining technical material to non-technical audiences of various backgrounds.
* Awarded superior teaching assistant rating by the Department of Mathematics

UNIVERSITY OF WISCONSIN - MADISON | DRP Mentor
Aug 2021 - May 2022 | Madison, WI
Designed projects in **machine learning** and algebraic geometry and mentored undergraduate students in various reading advnaced math and coding **neural networks**. Details can be found **here**

AWARDS

2020-2022	Univ. of Wisconsin	Exceptional Teaching Award
2017-2020	Univ. of Illinois	Edmund J James Scholar
2016-2020	Univ. of Illinois	Dean's List, Every Semester

PUBLICATIONS

[1] K. Srivastava and D. Pimentel-Alarcón. A perturbation bound on the subspace estimator from canonical projections. In *2022 IEEE International Symposium on Information Theory (ISIT)*, pages 1617–1622, 2022.