

Yanqi Zhang

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PERSONAL DETAILS

Email yanqizhang2019@gmail.com
Blog Mixtapes From Null Space 🌐 <https://taccoon666.com/>
Location NYC

EDUCATION

Columbia University, New York, NY 2021-2023
M.A. in Statistics, GPA: 3.80

Includes: Nonparametric & Bayesian statistics, inference, machine learning, information theory

Northwestern University, Evanston, IL 2015-2019
B.A. in Mathematics & Statistics, GPA: 3.80(cum laude)

Minor in Psychology

Includes: Real analysis, dynamical systems, probability, algebra, topology, computational statistics

RESEARCH INTERESTS

Nonparametric statistics, analysis, manifold representations and intrinsic dimensionality, theory of normal numbers, topological methods, discrepancy theory

RECENT PROJECTS

Lexical Representation Algorithm Apr 2023 - present
Independent Research

Title: A multivariate rank-based test via random representation and stochastic lexical ordering

I developed a combinatorial algorithm for comparing multivariate samples, leveraging Cantor's diagonal method, number-theoretical normality, and partition ranks. I proposed relevant definitions, proved corollaries and lemmas, and devised multiple attack plans. Currently, I am focused on theoretical justification and enhancing the algorithm's capacity to adapt to the fractal dimensionality of data.

Nonparametric Dimensionality Reduction Sep 2023 - Dec 2023
Mentor: Bodhisattva Sen

We surveyed linear and nonlinear dimensionality reduction techniques in statistics and ML. I gave presentations on geometric/topological subjects like Isomap embedding, surface developability, geodesic convexity, and local diffeomorphism. In this process, I self-studied topics in manifold classification, differential forms on manifolds, and information geometry, which have been directly beneficial for my other projects.

WORK EXPERIENCE

STAR Program Mentor

May 2023 - Jun 2023

Department of Statistics, Columbia University, NY

I mentored two exceptional undergraduate students in their probability coursework, focusing on improving their learning strategies. Alongside four colleagues, I co-hosted a math refresher workshop covering topics in calculus, linear algebra, optimization, and probability. I presented calculus/analysis material through interactive slides and created original practice problems.

Senior Education Consultant

Jun 2020 - Aug 2021

PrincetonNow Education Services, Remote

Devised admission strategies for leading US/UK STEM universities with an international team. Recruited new team members and facilitated on-boarding.

Research and Analytics Intern

Jun 2019 - Sep 2019

Schneider Electric, Shanghai

Analyzed global energy markets, specifically in regional interconnections and client consumption trends. Identified clusters in datasets and made recommendations to management.

Research Assistant

Feb 2017 - Oct 2017

Affective & Clinical Neuroscience Lab, Northwestern University, IL

PI: Dr. Robin Nusslock

We used structural and functional neuroimaging to investigate the neural mechanisms underlying affective disorders, emphasizing functional connectivity in the brain. I processed and helped collect human MRI data, shadowed PhD students, and actively participated in lab meetings. During this experience, I learned the fundamentals of neurophysiology and neuroimaging data analysis.

Grader

Sep 2023 - Dec 2023

Department of Statistics, Columbia University, NY

Graded assignments for a course.

TEST SCORES

GRE 170/170 in Quantitative, 168/170 in Verbal (Tested in 2023)

TOEFL 117/120 (Tested in 2014)

SKILLS

Computer L^AT_EX, WOLFRAM MATHEMATICA, R, PYTHON, MICROSOFT OFFICE

Languages Mandarin(bilingual), English(bilingual), Spanish(beginner), Cantonese

Other Filmmaking, Pet Rabbits

RECENT FILM PROJECTS

Energy Doesn't Die (2025) SOUND RECORDIST

The Space Between (2023) DIRECTOR OF PHOTOGRAPHY / CO-DIRECTOR