

Ryan A. Anderson

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EDUCATION

University of California, Los Angeles, Los Angeles, CA 2022 – Present
Ph.D. Candidate in Statistics, Advisor: Guido Montúfar

University of Pennsylvania, Philadelphia, PA 2012 – 2016
Bachelor of Arts | Major: Mathematics | 2nd Major: History | Cumulative GPA: 3.5/4.0

TALKS & PRESENTATIONS

SIAM Conference on Applied Algebraic Geometry (AG25), Madison, WI July 2025
Session: New Frontiers of Geometry and Combinatorics in Machine Learning
– Presented my results (in forthcoming preprint) using interval matrix enclosures to characterize the geometry of the space of value functions in reinforcement learning problems, especially with applications to the partially observable setting

Macaulay2 Workshop at Tulane University, New Orleans, LA March 2025
Session: Lightning Talks
– Presented my results using tools from computational algebraic geometry including elimination via Gröbner bases to understand the ideals generating the space of value functions in fully observable reinforcement learning problems

TEACHING EXPERIENCE

Teaching Assistant, UCLA Statistics & Data Science Fall 2023 – Present
STATS 10: Introduction to Statistical Reasoning – Fall, Winter 2023 w/ Thomas Maierhofer, Spring 2025 w/ Hao Ho
STATS 13: Introduction to Statistical Methods for Life and Health Sciences – Winter 2025 with Josh Sparks
STATS 20: Introduction to Statistical Programming with R – Fall 2024 w/ Thomas Maierhofer
STATS 101C: Introduction to Statistical Models and Data Mining – Summer 2024 with Miles Chen
STATS 102A: Introduction to Computational Statistics with R – Summer 2025 with Michael Chiang
– Intro survey courses in the UCLA major, include both lab and discussion sections, covering introduction to programming in R, data visualization and management, basic probability, regression, and hypothesis testing
– 101C covers statistical learning theory, parametric and nonparametric approaches for learning, cross validation, and overview of models including linear regression, k-nearest neighbors, regression trees
– 102A covers data types and structures in R, object oriented programming, regular expressions, graphics and data visualization, databases and querying with the Tidyverse

Reader, UCLA Statistics & Data Science FY 2022-23
STATS 10: Introduction to Statistical Reasoning
STATS 20: Introduction to Statistical Programming with R
STATS 101C: Linear Models
– Reviewing and grading assignments for sections of core undergraduate sequences in the UCLA major

RELEVANT WORK EXPERIENCE

G-RIPS Program Participant, Berlin, Germany Summer 2023
Graduate Student Researcher, Zuse Institute Berlin at the Freie Universität Berlin

- Researched statistical shape models in partnership with German corporation 1000Shapes GmbH through the Graduate-level Research in Industrial Projects for Students (G-RIPS) program, hosted by the Zuse Institute Berlin and co-funded by the Institute for Pure and Applied Mathematics (IPAM) at UCLA
- Studied theoretical guarantees on algorithmic solutions to image registration problem, comparing Gaussian process regression-based approaches to Procrustes algorithms
- Implemented novel preprocessing step of MRI data based on voxelization in analysis of anatomical features, integrating with state-of-the-art variational autoencoder methods inspired by IM-Net

DoorDash Inc., San Francisco, CA

Dec. 2020 – Sep. 2022

Associate Manager, New Verticals

- Managed delivery costs and quality for DashMart, DoorDash's first-party convenience business, as it grew from 20 facilities to 60 over the course of 2021; quantified inefficiencies in legacy delivery pay models and developed understanding of how to account for non-linearity in delivery pay responses

Bridgewater Associates, Westport, CT

Feb. 2018 – Aug. 2019

Research Associate | Areas of Focus: Asia-Pacific, Australia, Latin America

- Provided strategic investment insight to Bridgewater's clients: sovereign wealth funds, corporate pensions, etc.
- Created dashboards and visualizations of global economic and market data to advise head researchers and CIOs, including statistical testing, historical and expected stress testing, and correlation and regression analyses

Goldman Sachs & Co., New York, NY

Jul. 2016 – Feb. 2018

Analyst, Global Credit Trading | Sector Focuses: Industrials, Consumer Goods, Pharma & Healthcare

- Member of team responsible for managing ~\$8bn in corporate debt, and for handling the liquidity needs of hundreds of institutional clients ranging from distressed hedge funds to state pension managers
- Designed and implemented interest rate hedging strategy, with flows up to \$1bn daily in US Treasury market

ACTIVITIES

Advance Studies Institute in Mathematics of Data Science & Machine Learning, Uzbekistan

Jan. 2024

Attendee

- Part of US delegation participating in workshops on topics in mathematics of machine learning at Urgench State University in Khorezm Region, Uzbekistan, including statistical learning theory, model-based clustering, benign overfitting, spatio-temporal point processes, and algebraic computer vision

IMSI Long Program: Algebraic Statistics and Our Changing World, Chicago, IL

Sep. 2023

Attendee

- Attended lectures and workshops on topics in algebraic statistics, including phylogenetic models, geometry of linear convolutional methods, homotopy methods, and method of moments for estimating parameters of Gaussian mixtures

LEADERSHIP, AWARDS & DEVELOPMENT

DoorDash New Verticals D&I Team

Established Fall 2021

Leader, Inclusion and Education

- Leading a set of “boot camp” classes to help new employees with non-standard backgrounds come up to speed on technical and industry-specific professional demands at DoorDash
- Teaching SQL, financial statement analysis, and basic marketplace concepts to cohorts of new employees monthly

Adolph G. Rosengarten Jr. Prize, University of Pennsylvania

Apr. 2016 Awardee

– Award designates the most outstanding honors thesis in the History Dept., given for my thesis, *“There grows in the land here neither wine nor meat”: Governance and Conflict in the German Rule of 16th Century Venezuela*

SKILLS & INTERESTS

Foreign Languages: German – Fluent | Spanish, French, Portuguese – Proficient

Programming Experiences: C++, Python, SQL, Julia, Matlab, R

Interests: Mobster movies, classical history, local government, gaming, blogging, hiking w/ my golden retriever