Aniruddhan Ganesaraman

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Education

Ph.D., Statistics and Operations Research — Aug 2024 – Present
Dept. of Statistics & Operations Research, The University of North Carolina at Chapel Hill — Chapel Hill, NC
Advisors: Prof. Patrick Lopatto & Prof. Michael Kosorok

M.S., Statistics, Analytics, and Data Science — Aug 2024 – May 2026
Dept. of Statistics & Operations Research, The University of North Carolina at Chapel Hill — Chapel Hill, NC
Advisor: Prof. Vidyadhar Kulkarni Thesis: *Data-Driven Block Replacement Scheduling*

M.Stat. (Master of Statistics), Advanced Probability Theory Specialization — Aug 2022 – May 2024
Indian Statistical Institute — Kolkata, India
Advisor: Prof. Arijit Chakrabarty Thesis: *Clustering of Large Deviation Events*

B.Sc. (Hons.), Mathematics and Computer Science — Aug 2019 – May 2022
Chennai Mathematical Institute — Chennai, India

Research Interests

Causal inference, precision medicine, adaptive policy learning, and healthcare operations research.

Awards & Honors

Best Methodological Rigor, CAIPH Datathon 2026, UNC Chapel Hill — Mar 2026

Dr. Xin Ge Graduate Student Excellence Award, UNC Chapel Hill — Dec 2025
Recognizing the best-performing first-year PhD student in the STOR department

All India Rank 10, ISI M.Stat. Entrance Examination (nationwide) — May 2022

SHRIRAM Scholarship, Chennai Mathematical Institute — Aug 2019
Full tuition waiver and monthly stipend for all six semesters

KVPY Fellow (SX & SA streams), Dept. of Science & Technology, Govt. of India — 2018, 2019

NTSE Scholar, NCERT — 2017

Global 3rd Prize, NASA/NSS Space Settlement Contest — May 2015
Presented at the International Space Development Conference, Toronto, Canada

Teaching Experience

Instructor of Record, STOR 155: Intro to Data Models & Inference, UNC — Jun–Jul 2026
Featured in INDY Week for this course

Bootcamp Instructor (Real Analysis & Linear Algebra), UNC STOR — Aug–Sep 2025
Lead instructor for incoming PhD students; co-taught with Dr. Panagiotis Andreou.

Graduate Teaching Assistant, UNC Chapel Hill — Aug 2024 – Present
STOR 635 (Probability II), STOR 634 (Probability I), STOR 455 (Methods of Data Analysis), STOR 155 (Intro to Data Models & Inference), STOR 445 (Stochastic Modelling), STOR 435 (Introduction to Probability)

Undergraduate Teaching Assistant, Chennai Mathematical Institute — Dec 2020 – May 2022
Complex Analysis, Analysis I–III, Probability Theory, Functional Programming (Haskell)

Teaching Assistant, NPTEL — Jul 2021 – Apr 2024
Introduction to Haskell Programming (Prof. SP Suresh); Functional Analysis (Prof. S. Kesavan, IMSc)

Research & Industry Experience

Graduate Research, UNC Chapel Hill — Aug 2024 – Present
Projects in *causal inference* (over-identified IVs), *precision medicine* (online V-learning), and *ED operations* (data-driven bed management)

Reading Project: Random Matrix Theory, IISc Bangalore — May–Aug 2021
Supervised by Prof. Manjunath Krishnapur; spectral distributions via method of moments and Stieltjes transforms

Reading Project: Dirichlet's Class Number Formula, ISI Bangalore — May–Jul 2020
Supervised by Prof. B. Sury; Dedekind zeta functions and Dirichlet L-functions

Data Science Intern, [24]7.ai, Bangalore — Jun–Jul 2019
Developed an optimization algorithm for the hospitality sector under Dr. Pratibha Moogi

Selected Talks & Outreach

- *A Decision Framework for Early Inpatient Bed Requests in Emergency Departments*, UNC STOR Graduate Student Seminar (Apr 2026)
- *Data-Driven Block Replacement Scheduling*, UNC STOR Graduate Student Seminar (Mar 2026)
- *ML-based Heterogeneous Causal Effects of SDOH on Cardiovascular Health*, CAIPH Datathon 2026, UNC Chapel Hill (Mar 2026) [Slides]
- *A Decision Framework for Early Inpatient Bed Requests in Emergency Departments*, UNC Department Visit Day (Feb 2026)
- *A Decision Framework for Early Inpatient Bed Requests in Emergency Departments*, Joint BIOS–STOR Student Flashtalks (Feb 2026)
- *The Mystery of "Why"*, ROOTS 2025, Raising A Mathematician (RAM) Foundation (Nov 2025) [Abstract] [Slides]
- *The More You Know, the More You Know You Don't Know*, ROOTS 2024, RAM Foundation (Nov 2024) [Abstract] [Slides]
- *A Survey of Percolation Theory*, CMI Mathematics Seminar (Mar 2024)
- *A Glimpse into Probability*, ROOTS 2023, RAM Foundation (Nov 2023) [Slides]
- *Experiments in Probability*, RAMTP & Epsilon India 2022, RAM Foundation (Feb 2022) [Abstract] [Slides] [Video]
- *The Secure Pattern*, ROOTS 2021, RAM Foundation (Nov 2021) [Abstract] [Slides]
- *From Sports to Courts*, ROOTS 2021, RAM Foundation (Oct 2021) [Abstract] [Slides] [Video]
- *Length at Length*, Online Math Club (Sep 2021) [Abstract] [Handout] [Video]
- *Am I Correct? Probably!*, DhiMath Public Lecture (Sep 2021) [Abstract] [Slides] [Video]

Service & Leadership

Mentor, Twoples – mentoring an advanced undergraduate in High Dimensional Probability — Oct 2023

Head Organizer, STEMS & Tessellate, CMI — Sep 2019 – Mar 2022
End-to-end planning of CMI's annual inter-collegiate math & science festival; organized STEMS lecture series featuring leading researchers from top institutions worldwide

Student Treasurer, Chennai Mathematical Institute — Mar 2020 – May 2022

Grievance Committee Member & Mentor-Counselor, CMI — Oct 2021 – May 2022

Volunteering

UNC Science Expo, Morehead Planetarium — Apr 2025, Apr 2026
Represented STOR department with interactive exhibits on the Monty Hall problem, Galton board, and the Traveling Salesman Problem

UNC Engineers Week – represented STOR dept. with OR and healthcare operations demos — Feb 2026

Teaching Volunteer, Focus A1 Academy for NIOS — May–Jun 2022
Taught Descriptive Statistics (Grades 10 & 12) and Probability (undergraduate), 4 hrs/week

Math Olympiad Mentor, Rural Odisha (30 students) — May–Jun 2021
Mentored students online for the Regional Mathematical Olympiad on Inequalities and Geometry

Student Volunteer, Bridge India Foundation — 2021
Coordinated visits to Samarthanam Trust for the Disabled and Sri Rakum School for the Blind; helped build a handheld device for visually challenged individuals to identify currency denominations

Selected Coursework

UNC: Causal Machine Learning, Precision Medicine, Reinforcement Learning & MDP, Simulation Modeling

ISI: Martingales, Percolation Theory, Brownian Motion, Functional Analysis, Time Series Analysis, Large Sample Theory

CMI: Measure Theory, Real & Complex Analysis, Topology, Algorithms, Theory of Computation, Linear Algebra

Skills

Programming: R, Python, LaTeX
Languages: English (Fluent), Tamil (Native), Hindi, Kannada, Bangla