

Anu Jajodia

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Education

Carleton College, Northfield, MN

June 2026

Bachelor of Arts in Statistics (Capstone: Bayesian Experiment Design and Error Rates in Forensic Statistics)

Study Abroad: Budapest Semesters in Mathematics/Aquincum Institute of Technology, Theater and Creative Writing in London

Relevant Courses: Discrete Math, Optimization, Mathematical Statistics, Probability, Natural Language Processing, Cryptography, Theory of Computing, Deep Learning, Microeconomics, Bayesian Statistics, Political and Economic Beliefs, Calculus I-III, Linear Algebra

Awards and Grants

Abeona Endowed Fund for International Internships (2024)

Publications

Sean Perry and Tianqi Zhang and Siya Kamboj and **Anu Jajodia** and Dhruv Tomar and Ryan Kastner. 2025. "Studying Domain Shifts in Bioacoustic Recording Style With Information Theory". *under review at Ecological Informatics*. ([pdf](#))

Christopher L. Crutchfield, Nykolas Rekasius, **Anu Jajodia**, Theodore Darci-Maher, Sijan Shrestha, Aayushka Budhathoki, Annabelle Chen et al. 2025. FishSense Mobile: A Mobile Device App for On-Deck Fisheries Management Operations. *IEEE OCEANS*. ([pdf](#))

Research Experience

Carleton College, Neuroscience

September 2024 - Present

Advisors: Professor Eric Hoopfer

Northfield, MN

Using methods from natural language processing (embedding, clustering, Markov chain analysis, encoder-only Transformers) to analyze *drosophila* (fruit fly) behavior. Producing reports, models, and figures for the lab to use in presentations and papers.

UC San Diego, Computer Science and Engineering

June 2024 - Present

Advisors: Professor Ryan Kastner and Professor Curt Schurgers

San Diego, CA

Developing methods to explore unlabeled soundscape audio for ecology as a part of the Engineers for Exploration REU. My work involves exploring information theory quantifiers such as entropy and complexity to understand complicated signals from soundscape audio. I am also researching the use of autoencoders to parameterize soundscapes in latent space, as well as graph neural networks for hypothesis generation. This work is developed alongside and presented to the San Diego Zoo Wildlife Alliance and the National Geographic Society Exploration Technology Lab for use in the field.

Carleton College, Mathematics and Statistics

March 2025 - June 2025

Advisor: Professor Katie St. Clair

Northfield, MN

Conducted a statistical analysis of the role of Trump Administration and internal policies on participation in a local food bank. Consulted with leadership at the food bank to develop and test hypotheses on a dataset of transactions from the past year. Utilized linear mixed-effects models to document effects in data and presented findings, along with policy insights, to food bank leadership.

Alfred Renyi Institute, AI Group

December 2024 - March 2025

Advisor: Dr. Pál Zsámboki

Remote

Studied hyperparameter optimization in LLMs using Gaussian Processes and reinforcement learning. Developed and tested prototype models to explore variations in architecture, the effect of different kernels, and other metahyperparameters. In addition to testing performance, we tested efficiency of training methods in terms of steps needed for convergence.

Metis Research

June 2024 - August 2024

Advisor: Dr. Flavio Bonifacio

Turin, Italy

Analyzed systemic issues in the Italian healthcare system leading to wait times for healthcare. Examined issues of inequity on several demographic factors, such as age, class, and gender identity. Applied a variety of methods to model categorical covariates, using both classical statistical models and machine learning. Collaborated with researchers in the Italian government and at the University of Torino to understand trends and develop policy. Final presentation and report delivered to regional department of healthcare.

Industry Experience

Atumcell

June 2023-August 2023

Software Development Intern

Boston, MA

Developed a platform for Chief Information Security Officers to view the progress of cybersecurity checks on their services. Researched natural language processing for URL vulnerability detection based on Common Vulnerabilities and Exposures (CVE) data.

Teaching Experience

Carleton College, Quantitative Resource Center

June 2025-Present

Tutor

Northfield, MN

Teach quantitative problem-solving for a variety of courses. I develop learning plans and explain techniques during one-on-one drop-in and appointment sessions. I work mostly with students aiming to develop statistical methods for non-statistics departments, such as physics, economics, political science, chemistry, and psychology. I also work with students taking Introduction to Computer Science.

Carleton College, Mathematics and Statistics Department

September 2025-Present

Grader

Northfield, MN

Graded for Bayesian Statistics while taking the course due to a limited pool of qualified statistics students. Worked with Professor Amanda Luby to ensure fair scoring, develop solutions, and give critical feedback.

Presentations

Jajodia, A. (2025, November). *Unlocking Unlabeled Ecoacoustic Data*. Electronic Undergraduate Statistics Research Conference (eUSR 2025).

Jajodia, A. (2025, September). *Unlocking Unlabeled Ecoacoustic Data*. Northfield Undergraduate Mathematical Symposium (NUMS), St. Olaf College, Northfield, MN, United States.

Skills

Tools: Python (NumPy, PyTorch, Tensorflow, NetworkX, Seaborn), R (dplyr, ggplot, broom, rvest, general tidyverse), Julia, Java, L^AT_EX, Linux, D3.js

Languages: English (fluent), Italian (intermediate), German (beginner)

Techniques: Autoencoders, transformers, computer vision, scraping, Gaussian Process optimization, Markov Chain Monte Carlo, linear and convex optimization, mathematical statistics

Professional Memberships

American Statistical Association (ASA), Society for Industrial and Applied Mathematics (SIAM)