

Emarie Rose De La Nuez

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EDUCATION

Tufts University, *Master's in Mathematics*

Relevant Courses: Numerical Analysis, Non-Linear Optimization, Data Structures & Algorithms

Medford, MA

Sep. 2022 – May 2024

Smith College, *Certificate in Mathematics*

Relevant Courses: Probability, Advanced Calculus, Real Analysis, & Data Ethnography

Northampton, MA

Sep. 2021 – May 2022

Oberlin College, *B.A. in Africana Studies, Minors in Economics and Mathematics*

Relevant Courses: Linear Optimization, Statistics, & Advanced Econometrics

Oberlin, OH

Aug. 2017 – May 2021

Fiorello H. LaGuardia, *Majored in Scenic Art*

NOCTI Certified

New York, NY

Aug. 2017 – May 2021

RESEARCH EXPERIENCE

Research Associate, Tufts University

Paper: Mapper Graphs for Voting Analysis

June 2023 – June 2024

MGGG Redistricting Lab

- Developed a data preprocessing pipeline that transformed 2.7 million entries of Census Bureau and Chicago election data into NetworkX graphs, and stored these objects as JSON files.
- Implemented various clustering algorithms, including K-means, DB-Scan, and X-means, to develop and refine dimension detection and feature selection in the data analysis pipeline.
- Developed a data analysis pipeline that transformed JSON objects into heatmaps, measuring candidates' performance with subsets of the population in the first and second rounds of elections. Currently workshopping results for journal submission.
- Developed methods for key classes, conducted unit testing and added documentation during the early development of the open-source project VoteKit.

Data Analyst, Smith College

Project: PFAS Substance Exposure Risks in U.S. Carceral Facilities

September 2021–June 2022

Data Ethnography and Advocacy Lab

- Designed data processing pipeline that aggregated data from the Department of Homeland Security and PFAS Project Lab's PFAS Contamination Site Tracker.
- Conducted geospatial data processing on PFAS sources and selected carceral facilities with USGS elevation and watershed datasets and U.S. Census Block data into a structured, quality database.
- Produced key metrics, including counts, percentages, and populations of carceral facilities near PFAS point sources, using the Tidyverse package.

Lead Researcher, Oberlin College

Project: Black-face Minstrelsy in the 19th and 21st Centuries

June 2019 – June 2021

Mellon Mays Undergraduate Research Fellowship

- Led mixed-methodological research on gendered expressions of racial appropriation.
- Curated an original dataset on racial discourse by utilizing Twitter's API to process real-time data.
- Developed a real-time, data processing pipeline that filtered Twitter data based on predefined keywords and themes.
- Utilized Scikit-learn's implementation of Latent Dirichlet Allocation for topic modeling, identifying and quantifying prevalent word associations within the corpus.

TEACHING EXPERIENCE

Tufts University

- Introduction to Proofs (T.A.)(Grader)
- Probability (T.A.)(Grader)
- Calculus II (Grader)
- Calculus I (Grader)

January 2024 – May 2024

September 2023 – January 2024

January 2023 – May 2023

September 2022 – January 2023

Smith College

- Linear Algebra (T.A.)(Grader)

January 2022 – May 2022

WORK EXPERIENCE

Art Studio Manager Intern

Textile Arts Center

May 2024 – Present

Brooklyn, NY

- Engage in a public art studio's daily operations and management. My responsibilities include managing inventory, material sourcing + purchasing, maintenance procedures, studio readiness, class prep, and specialty projects.

Private Tutor for Graduate Foundations of Regression & Predictive Modeling

Course @ University of Texas, Austin

Present

New York, New York

- Conduct personalized two-hour tutoring sessions weekly for a graduate-level statistics course, focusing on advanced topics in Bayesian statistics, variable selection, estimation algorithms, hypothesis testing, modeling, goodness of fit, and prediction.

Hostess

Serafina on 77th

May 2022 – August 2022

New York, NY

- Proficient in operating P.O.S systems, including Toast, and completed comprehensive server training, demonstrating strong knowledge of menu items, customer service techniques, and teamwork.

Barista

Slow Train

October 2017 – October 2019

Oberlin, OH

- Gained extensive coffee knowledge and expertise in crafting various beverages through hands-on experience.
- Demonstrated strong attention to detail by consistently handling complex orders and following meticulous cleaning protocols.
- Enhanced multi-tasking abilities by efficiently managing order taking, cash register operations, and drink preparation simultaneously.
- Developed strong teamwork and communication skills, contributing to seamless assembly line operations during peak hours.

Back-Bar

Slow Train

October 2017 – October 2019

Oberlin, OH

- Supported bartenders during peak hours by mixing cocktails to specification and pouring beers, ensuring efficient and accurate service.
- Exhibited strong multi-tasking abilities by simultaneously taking orders, operating the cash register, and fulfilling orders.
- Mastered bar opening and closing procedures, including fully stocking ice bins, preparing fruit and garnishes, and setting up service bars for drink service.
- Shadowed experienced bartenders and demonstrated a strong willingness to learn, initiating the process for a bartender promotion, which was not completed due to Ohio alcohol serving laws regarding underage staff.

Barista

The Bean

July 2017 – August 2018

New York, NY

- Built a solid foundation for thriving in high-pressure environments by working full-time during the bustling tourist seasons.

AWARDS AND SCHOLARSHIPS

Future Leaders Fellowship

One out of sixteen students awarded a full-tuition scholarship for Master's degree.

Tufts University

Fall 2022 – Spring 2024.

Mellon Mays Undergraduate Research Fellowship

One out of five Oberlin students nominated for a national research grant.

Oberlin College

Spring 2019 – Present

Say Yes to Education National Scholarship

Awarded a Full-Tuition Scholarship for an undergraduate degree.

Oberlin College

Fall 2005 – Spring 2021

Tisch Summer Fellowship

Summer Funding for a full-time position at the MGGG Redistricting Lab

Tufts University

June 2023 – September 2023

Origami-Con Scholarship

Received a full-tuition scholarship to study under Physicist, Robert Lang.

Smith College

June 2023 – September 2023

SERVICE AND ACTIVITIES

Green EDGE Fund, Student Senate Liason

Oberlin College

Oberlin, OH

September 2019 – May 2021

- Represented Oberlin student body in institutional discussions of environmental sustainability.
- Coordinated weekly meetings with student representatives to allocate funds for environmentally sustainable projects.
- Worked with local businesses to review financial processes and provided accounting knowledge.

Peer Advising Leader

Oberlin College

August 2019 – December. 2019

Oberlin, OH

- Taught a two-credit college course to first-year students.

INVITED TALKS

Social Choice, and Electoral System Design

Race, Reform and Multiracial Democracy Convening, CHHIRJ @ Harvard Law School, February 2019

PFAS Exposure Risk in Carceral Facilities within the State of Georgia

Joint Mathematics Meeting, Seattle, WA, 2021

Filling in the Color Line: A Quantitative Look at Practices of white Hegemony

Mellon Mays Undergraduate Fellowship Regional Conference, Grinnell College, October 2019

Filling in the Color Line: A Quantitative Look at Practices of white Hegemony

Mellon Mays Undergraduate Fellowship Regional Conference, Oberlin College, February 2019

TECHNICAL SKILLS

Technical: Python, Zsh, Matlab, SQL, R, STATA, Poetry, and L^AT_EX.

Frameworks/Libraries: Pandas, NumPy, Scikit-Learn, Matplotlib, Beautiful Soup, Json, Pytest, Poetry, TensorFlow, Git.

Spoken Languages: Spanish (Fluent), Italian (Intermediate), and Latin (Intermediate).