

## EDUCATION

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### Vanderbilt University

Ph.D. in Biostatistics

Nashville, TN

Expected May 2029

### Wake Forest University

M.S. in Statistics, GPA: 4.00/4.00

Graduate Certificate in Data Science, GPA: 4.00/4.00

Thesis Advisor: Sarah Lotspeich, Ph.D.

- Thesis: Adjusting for covariate misclassification to quantify the relationship between diabetes and local access to healthy food

Winston-Salem, NC

May 2024

### University of Scranton

B.S. in Applied Mathematics and B.A. in Philosophy, *Summa Cum Laude*, GPA: 3.94/4.00

Minors in Computer Science and Finance, Concentration in Data Science

Honors Program, Special Jesuit Liberal Arts Honors Program

Thesis Advisor: Murong Xu, Ph.D.

- Thesis: Music Feature Classification: Using Techniques of Machine Learning to Detect Genre
- Available from <https://digitalservices.scranton.edu/digital/collection/p15111coll1/id/1340/rec/68>

Scranton, PA

May 2022

### St. Anthony's High School

Advanced Regents Diploma

South Huntington, NY

June 2018

## RESEARCH AND WORK EXPERIENCE

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### 9. Research Assistant

*Vanderbilt University Medical Center, Department of Biostatistics*

Mentor: Rameela Raman, Ph.D.

Nashville, TN

July 2024 – Present

### 8. Lead Teaching Assistant

*Wake Forest University, Departments of Statistical Sciences and Mathematics*

Mentor: Lynne Yengulalp, Ph.D.

Winston-Salem, NC

Mar 2023 – May 2024

- Managed scheduling and logistics for over 70 teaching assistants and tutors
- Developed resources for pedagogical training and curriculum support

### 7. Research Assistant

*Wake Forest University, Department of Statistical Sciences*

Mentor: Sarah Lotspeich, Ph.D.

Winston-Salem, NC

Jan 2023 – May 2024

- Developed methods for error-prone data
- Contributed to ongoing lab projects and manuscripts

### 6. Data Science Intern

*Hanesbrands*

Winston-Salem, NC

June 2023 – August 2023

- Designed and implemented a scalable predictive sales model prototype
- Identified a multi-million dollar sales growth opportunity for a major account

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| <p>5. <b>Academic Tutor</b><br/><i>Self-Employed</i></p> <ul style="list-style-type: none"> <li>• Supported students with mathematics and statistics coursework</li> <li>• Prepared students for standardized exams</li> </ul>  | <p>Huntington, NY<br/>January 2012 – Present</p>    |
| <p>4. <b>Summer Research Intern</b><br/><i>Central Washington University, Department of Mathematics</i><br/>Mentor: Sooie-Hoe Loke, Ph.D.</p> <ul style="list-style-type: none"> <li>• Modeled a popular game show using R and Python</li> <li>• Communicated findings to peers and mentors using Beamer presentations</li> <li>• Attended workshops, talks, and lectures by field experts</li> </ul> | <p>Virtual<br/>June 2021 – August 2021</p>          |
| <p>3. <b>Summer Research Intern</b><br/><i>Carnegie Mellon University, Department of Statistics and Data Science</i><br/>Mentors: Sam Ventura, Ph.D. and Ron Yurko, Ph.D.</p> <ul style="list-style-type: none"> <li>• Worked on visualization and modeling projects in sports analytics using R</li> <li>• Attended workshops, talks, and lectures by field experts</li> </ul>                       | <p>Virtual<br/>June 2020 – August 2020</p>          |
| <p>2. <b>Academic Tutor</b><br/><i>University of Scranton, Center for Teaching and Learning Excellence</i></p> <ul style="list-style-type: none"> <li>• Supported individual students with coursework in math, statistics, computing, logic</li> <li>• Reinforced classroom instruction for small groups of students on a drop-in basis</li> </ul>  | <p>Scranton, PA<br/>March 2019 – May 2022</p>       |
| <p>1. <b>Financial Analyst</b><br/><i>VentureBrandUSA LLC</i></p> <ul style="list-style-type: none"> <li>• Developed spreadsheet templates to model investment values over time</li> </ul>  | <p>East Northport, NY<br/>July 2019 – July 2021</p> |

## HONORS AND AWARDS

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| <p>15. <b>Highly Commended Article, Significance Magazine</b><br/>Designation from the annual Statistical Excellence Award for Early-Career Writing Competition</p>                           | <p>2024</p>        |
| <p>14. <b>Russell G. Hamilton Scholar, Vanderbilt University</b></p>  | <p>2024-2029</p>   |
| <p>13. <b>Provost's Graduate Fellowship, Vanderbilt University</b></p>  | <p>2024-2029</p>   |
| <p>12. <b>Graduate Student Award for Outstanding Scholarship, Wake Forest University</b><br/>Awarded by the Department of Statistical Sciences for scholarship, ingenuity, and dedication</p> | <p>2024</p>        |
| <p>11. <b>Travel Award, Women in Statistics and Data Science Conference</b><br/>Merit-based award for student or early professional conference attendees</p>                                  | <p>2023</p>        |
| <p>10. <b>Gertrude M Cox Scholarship</b><br/>Awarded by the American Statistical Association to an early-career graduate student</p>  | <p>2023</p>        |
| <p>9. <b>Teaching Assistantship, Wake Forest University</b><br/>Full tuition grant and teaching stipend</p>   | <p>2022 – 2024</p> |
| <p>8. <b>Provost Merit Scholarship, Wake Forest University</b><br/>Merit-based graduate student award</p>   | <p>2022 – 2024</p> |
| <p>7. <b>Outstanding Poster, Mathematical Association of America MathFest</b><br/>Awarded for excellent project presentation and poster design</p>  | <p>2022</p>        |

6. **Excellence in Applied Mathematics Award, University of Scranton** 2022  
Merit-based department award
5. **Humanities Fellow, University of Scranton Slattery Center** 2021 – 2022  
Undergraduate humanities research grant
4. **Presidential Scholarship, University of Scranton** 2018 – 2022  
Merit-based full-tuition scholarship awarded for exemplary academic achievement
3. **Dean’s List, University of Scranton** 2018 – 2022  
Distinction granted to full-time students with a GPA above 3.50
2. **Central Convergence REU Scholar** 2021  
Undergraduate research grant
1. **National Hispanic Scholar, Hispanic Scholarship Fund** 2018 – 2020  
Merit-based distinction and scholarship awarded to university students of Hispanic heritage

## PRESENTATIONS

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9. **Invited Talk:** Misclassification Challenges in Quantifying the Relationship Between Diabetes and Local Access to Healthy Food  
*Department of Mathematics, University of Scranton* Scranton, PA  
March 2025
8. **Guest Lecture:** Stats can be fun, I swear!  
*PSYCH1130, Cornell University* Virtual  
September 2024
7. **Contributed Talk:** Adjusting for Measurement Error to Quantify the Relationship Between Diabetes and Local Access to Healthy Food - *ENAR Spring Meeting* Baltimore, MD  
March 2024
6. **Contributed Poster:** Rate This Interruption: Using Interrupted Time Series Techniques to Analyze Popular Television Couples and Episode Ratings  
*Women in Statistics and Data Science Conference* Bellevue, WA  
October 2023
5. **Contributed Poster:** Music Feature Classification: Using Techniques of Machine Learning to Detect Genre - *Mathematical Association of America MathFest Conference* Philadelphia, PA  
August 2022
4. **Contributed Poster:** Deal or No Deal: Modeling a Game Show with Utility Theory and Machine Learning - *Joint Mathematics Meetings* Virtual  
April 2022
3. **Contributed Poster:** Deal or No Deal: Modeling a Game Show with Utility Theory and Machine Learning - *SACNAS NDiSTEM Conference* Virtual  
August 2021
2. **Featured Talk:** Deal or No Deal: Modeling a Game Show with Utility Theory and Machine Learning - *Mount Stuart Mathematics Seminar Series* Virtual  
August 2021
1. **Featured Talk:** A Puck Above the Rest: The Effects of New Data on 2020 NHL Draft Decisions  
*Carnegie Mellon Sports Analytics Conference* Virtual  
October 2020

## SUBMITTED MANUSCRIPTS

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1. S.C. Lotspeich, **A.E. Mullan**, L. D’Agostino McGowan, and S.A. Hepler, “Combining straight-line and map-based distances to investigate the connection between proximity to healthy foods and disease,” *Statistics in Medicine* (under review), 2024+. Preprint available at <https://arxiv.org/abs/2405.16385>.

## PAPERS IN PREPARATION

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1. **A.E. Mullan** and S.C. Lotspeich, “Adjusting for Misclassification to Quantify the Relationship Between Diabetes and Local Access to Healthy Food”

## ADDITIONAL PROJECTS

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4. **Point Made: Exploring Factors that Contribute to Team Success** 2020  
*Carnegie Mellon Sports Analytics Camp*  
Mentors: Ron Yurko, Ph.D. and Nick Citrone, M.S.  
Coauthor: Alana Willis
  - Modeled NBA season results with regression techniques
3. **Batter Up! Visualizing the 2019 MLB Season** 2020  
*Carnegie Mellon Sports Analytics Camp*  
Mentors: Ron Yurko, Ph.D. and Nick Citrone, M.S.  
Coauthor: Zhiwei Xiao
  - Visualized results for top hitters of the 2019 baseball season in R
2. **An Analysis of SAT Results for New York City Students of the Class of 2010** 2019  
*The University of Scranton, Introduction to Data Science*  
Mentor: Jason Graham, Ph.D.
  - Compared mean SAT scores across the population of New York City high schools
1. **Biodiversity in Bryozoan Garden Communities of the Antarctic Marine Shelf** 2017  
*Long Island University, Department of Biology*  
Mentors: Scott Santagata, Ph.D. and Paul Paino
  - Quantified and compared biodiversity indices across the Scotia and Weddell Seas

## SOFTWARE

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2. **Contributor:** POSSUM - R Package  
<https://github.com/sarahlotspeich/possum>
1. **Contributor:** ThemePark - R Package  
<https://github.com/MatthewBJane/ThemePark>

## TEACHING

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3. **Wake Forest University** Winston-Salem, NC  
Teaching Assistant: STA111 - Elementary Probability and Statistics Aug 2022 – May 2023  
Supervising Professor: Leo Cella, Ph.D.
  - Supported mathematics and statistics undergraduate students in introductory coursework
2. **University of Scranton** Scranton, PA  
Teaching Assistant: INTD 290 - Leadership and Civic Responsibility May 2020 – Aug 2020  
Supervising Professors: Teresa Grettano, Ph.D. and Stephen Whittaker, Ph.D.
  - Assisted with curriculum revision, facilitated weekly small group discussion, and oversaw student presentations
1. **University of Scranton** Scranton, PA  
Sectional Assistant: Performance Music Aug 2018 – May 2022  
Supervising Instructor: Cheryl Boga

- Assisted with group strings lesson facilitation and corrected playing technique
- Instructed small groups of choir members in aspects of selected choral literature

## PROFESSIONAL SERVICE AND MEMBERSHIPS

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### Committees

- International Biometric Society (IBS), Eastern North America Region (ENAR)
  - \* Council for Emerging and New Statisticians (Social Media Co-Chair) 2024-2025
  - \* Social Media Committee 2023-2025
- Wake Forest University
  - \* Honor Council 2022-2024

### Officer Roles

- President
  - \* Pi Mu Epsilon, University of Scranton Chapter 2021-2022
- Secretary
  - \* Phi Sigma Tau, University of Scranton Chapter 2021-2022
  - \* Upsilon Pi Epsilon, University of Scranton Chapter 2021-2022

### Memberships

- Eastern North American Region - International Biometric Society 2023-
- American Statistical Association 2023-
- Caucus for Women in Statistics 2023-
- International Biometric Society, Eastern North American Region (ENAR) 2023-
- Alpha Sigma Nu - National Jesuit Honor Society 2022-
- Pi Mu Epsilon - National Honor Society in Mathematics 2021-
- Upsilon Pi Epsilon - International Honor Society in Computing 2021-
- Phi Sigma Tau - International Honor Society in Philosophy 2021-

### Conference Activities

- Invited Session Organizer (Frequency)
  - \* *ENAR Spring Meeting* (1), *Women in Statistics and Data Science* (1)
- Session Chair (Frequency)
  - \* *ENAR Spring Meeting* (1), *Women in Statistics and Data Science* (2)
- Invited Panelist (Frequency)
  - \* *Electronic Undergraduate Statistics Research Conference* (1)

## LEADERSHIP

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### Wake Forest University

- Lead Teaching Assistant - Departments of Statistical Sciences and Mathematics Mar 2023 - May 2024
- Facilitated mentorship opportunities for new graduate students

### University of Scranton

- College of Arts and Sciences Dean's Ambassador Dec 2021 – May 2022
- Presented student concerns to administrators

Admissions Ambassador	Oct 2019 – May 2022
<ul style="list-style-type: none"> <li>– Panelist for College of Arts and Sciences admission events</li> <li>– Panelist for prospective Special Jesuit Liberal Arts Honors Program student webinar</li> <li>– Mathematics student ambassador at in-person and virtual information sessions</li> <li>– Panelist for virtual information sessions for the Performance Music Department</li> </ul>	
Mathematics Club (President)	Aug 2018 – May 2022
<ul style="list-style-type: none"> <li>– Planned events for students in the department</li> <li>– Organized opportunities for new students to connect with peer mentors</li> </ul>	
HackScranton Club (Vice President)	Aug 2019 – Dec 2021
<ul style="list-style-type: none"> <li>– Facilitated club meetings and activities</li> <li>– Maintained log of club service and social media presence</li> </ul>	
Royal Investment Group	Aug 2018 – May 2021
<ul style="list-style-type: none"> <li>– Promoted computational literacy among club members</li> <li>– Created visualizations of changes in portfolio holdings in R</li> </ul>	
Club Council	Aug 2019 – May 2020
<ul style="list-style-type: none"> <li>– Updated club members on changes to university policy for student organizations</li> <li>– Participated in leadership training sessions</li> </ul>	

## LANGUAGES

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### English

Native Language

### Spanish

Intermediate Oral and Written Proficiency

## SELECTED SKILLS

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### Programming and Technical

R (advanced), SQL (intermediate), Python (intermediate), LaTeX (intermediate), GitHub (intermediate), Java (intermediate), Cluster Computing (novice), Julia (novice), Shiny (novice), Power BI (novice)

### Applications

Microsoft Suite (advanced), Google Suite (advanced), Bloomberg Terminal (novice)

### Other

Data Visualization, Statistical Modeling, Creativity