

Torre Caparatta, Ph.D.

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Work Experience

Statistician/Data Scientist

February 2026 - Present

UNC Health Care, ISD - Enterprise Analytics and Data Sciences

- Designs and develops enterprise-class, advanced analytic models to understand and solve complex business problems. Creates models by analyzing large data sets from various sources and processes.
- Establishes scalable, efficient, automated processes for large scale data analyses and model development, validation, and implementation.
- Ensures consistent, meaningful reporting and output formatting across all deliverables.
- Develops and documents technical designs such as Entity-Relationship Diagrams (ERD), data flow diagrams, component diagrams, architecture design documents, etc.
- Drafts and presents analytic proposals, designs and solutions to client stakeholders crafted to address both recognized and unrecognized needs and opportunities that are grounded in domain knowledge.
- Interfaces with relevant stakeholders to assist in lifecycle activities such as requirements gathering, research activities, and solution architecture and design.
- Organizes methods, plans, and data constructs for effective clinical and business analyses.

Lecturer

August 2025 - Present

UNC Greensboro, Department of Mathematics and Statistics, Greensboro, NC

- Design and deliver comprehensive lesson plans and course materials for undergraduate level courses
- Contribute in developing new courses to enhance undergraduate understanding of mathematical topics

Data Scientist

May 2024 - January 2026

Old Dominion Freight Line, Operational Engineering and Technology, Thomasville, NC

- Built a truck rotational model in Python/SQL, reducing projected fleet costs by 40%.
- Developed a mileage prediction model that uncovered \$14M in avoidable truck repair costs.
- Validated business logic of new Special Routing tool pre/post-launch to ensure accurate automation.
- Lead cross-team integration of Optym HaulPlan routing software, including BRDs and UAT testing.
- Define data flows and ensure reporting accuracy for a new yard truck assignment app.
- Deliver executive dashboards and insights via Python and Qlik Sense visualizations.

Graduate Teaching Assistant

August 2019 - May 2024

UNC Greensboro, Department of Mathematics and Statistics, Greensboro, NC

- Design and deliver comprehensive lesson plans and course materials for undergraduate level courses
- Contribute in developing new courses to enhance undergraduate understanding of mathematical topics
- Participate actively in statistical consulting sessions within the Statistical Consulting Center
- Served as a committee member for prestigious math conferences held at UNCG
- Fulfill the role of Graduate Senator, providing assistance and support to fellow graduate students

Adjunct

August 2023 - February 2024

Elon University Department of Mathematics and Statistics, Elon, NC

- Tailor instruction to undergraduate students on various statistical methods
- Utilize a range of tools for analyzing datasets, including Excel, StatCrunch, and others
- Reinforce students in comprehending statistical graphs and identifying optimal solutions for problems
- Fulfill comprehensive support to students across a range of statistical projects

Web Assistant

May 2023 - July 2023

UNC Greensboro, School of Health and Human Sciences, Greensboro, NC

- Migrated web content to a new format, ensuring seamless transition and improved user experience
- Developed and designed web pages on WordPress, adapting to accommodate existing content

- Utilized Photoshop to edit and enhance images, ensuring high-quality visuals
- Conducted thorough quality checks on both existing and new content to ensure accuracy to brand standard

Skills

Python (Proficient) | R (Proficient) | Microsoft Azure (Proficient) | Microsoft Office Suite (Proficient) | SQL (Proficient) | Qlik Sense (Proficient) | WordPress (Proficient) | Julia (Competent) | Microsoft Power BI (Advanced Beginner) | Tableau (Advanced Beginner) | Photoshop (Advanced Beginner)

Education

The University of North Carolina at Greensboro (UNC Greensboro)

Ph.D. Computational Mathematics **GPA** 3.66

August 2019 - May 2024

Post-Baccalaureate Certificate (PBC) in Statistics

August 2019 - December 2023

M.A Mathematics **GPA** 3.66

August 2019 - December 2022

B.S. Mathematics **Minor** American Sign Language Deaf Studies **GPA** 3.46

August 2016 - May 2019

Certifications

- Clinical Data Model, Epic *August 2026*
- Cosmos for Data Scientist, Epic *July 2026*
- Cosmos Data Model, Epic *July 2026*
- Clarity Data Model, Epic *March 2026*
- Cogito, Epic *March 2026*
- Caboodle Data Model, Epic *March 2026*
- Generative AI Professional Certificate by Snowflake *December 2025*
- PCAP - Certified Associate Python Programmer, Python Institute *October 2025*
- Microsoft Certified: Azure Data Scientist Associate, Microsoft *June 2025*
- Qlik Sense Business Analyst Certificate, Qlik *June 2025*
- Machine Learning Specialization Certificate, DeepLearning.AI, Stanford University *January 2024*
- IBM Data Science Professional Certificate, Coursera *January 2023*
- Google Data Analytics Certificate, Coursera *December 2022*

Seminar and Conference Presentations

- Triangle Area Graduate Mathematics Conference (NC State) *2023*
- Southern Regional Number Theory Conference (Louisiana State University) *2023*
- Algebra, Combinatorics, Topology, Geometry, and Number Theory seminar (UNCG) *2022*
- UNCG Regional Mathematics and Statistics Conference (UNCG) *2022*
- Palmetto Number Theory Series XXXV (University of South Carolina) *2022*
- Algebra, Combinatorics, Topology, Geometry, and Number Theory seminar (UNCG) *2021*

Papers

- Caparatta, T., Pauli, S., & Saidak, F. (2024). Zeros of Fractional Derivatives of Polynomials. *Experimental Mathematics*, 1–19. <https://doi.org/10.1080/10586458.2024.2382362>

Courses Taught

UNC Greensboro

- STA 271 - Fundamental Concepts of Statistics *Fall 2026*
- STA 108 - Elementary Introduction to Probability Staticists *Fall 2025, Spring 2026*
- MAT 112 - Contemporary Mathematics *Fall 2025*
- MAT 310 - Linear Algebra *Spring 2023*

- MAT 191 - Calculus I *Spring 2021*
- MAT 190 - Precalculus *Spring 2022, Fall 2022, Spring 2023, Fall 2023*
- MAT 181 - Calculus I Support Course *Fall 2019, Spring 2020, Fall 2021*
- MAT 118 - Business Algebra *Fall 2021, Summer 2022*

Elon University

- MTH Applied Calculus *Winter 2024*
- STS 1100- Intro to Statistical Reasoning (Elon University) *Fall 2023*

Volunteer and Service

- AI Symposium West at UNC Health *2026*
- Panel member for first year College students at UNCG *2021, 2022, 2023, 2026*
- Graduate Senator *2023, 2024*
- Secretary for AMS Chapter at UNCG *2023*
- Graduate Senator at UNCG *2023*
- Co-organizer, SERMON at UNCG *2023*
- Host for Math Help Center information desk at UNCG *2023*
- Session host at UNCG, Regional Mathematics and Statistics Conference (RMSC) *2022*
- Camp Counselor/Guest Speaker, Shiloh Family Ministries: Camp Kerr Lake *2011-2022*

Awards

- UNCG Student Undergraduate Employee of the Year *2019*
 - UNCG Department of Recreation and Wellness Above and Beyond Award *2019*
 - Vielhauer Scholarship *2018 - 2019*
 - Vicky Langley Math Scholarship *2018 - 2019*
 - Dean Scholarship *2016 - 2019*
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