

SARAH HELMBRECHT

skh8573@nyu.edu
www.linkedin.com/in/Sarah-Helmbrecht
sarahhelmbrecht.com

Education

New York University Courant Institute

New York City, NY | September 2023 – December 2024 (Expected) | M.S. in Mathematics

- Courses: Algebra I, Linear Algebra I, Math Analysis I, Scientific Computing

Tulane University

New Orleans, LA | August 2020 – May 2023 | B.S. in Mathematics and Computer Science | GPA: 3.75 | Math GPA: 3.81

- Honors: Dean's List (5 semesters), Founder's Scholarship (\$24,000 per year)

Work Experience

Teaching Assistant – Calculus I

New York University / September 2023 – present

- Recitation leader for four sections of Calculus I, for a total of 133 students
- Lead weekly recitations; hold office hours; proctor and grade quizzes and exams

O'Shaughnessy Asset Management – Franklin Templeton

Quantitative Finance Intern / May 2023 – September 2023

- Improving statistical risk model using probabilistic principal component analysis

Private Math Tutor

November 2020 – May 2023

- Tutor K-12 and college students in subjects ranging from Pre-Algebra to Calculus
- Built a good reputation with clients; able to sustain business using referrals

Projects

Research Group

Tulane / January 2023 – May 2023

- Helped Dr. Victor Moll prove the integrals in the Gradshteyn and Ryzhik table

Mathematics Senior Seminar Paper

Tulane / August 2022 – May 2023

- Wrote an expository article on *A Decoding Approach to Reed-Solomon Codes from Their Definition* by Maria Bras-Amorós

Computer Science Capstone Project

Tulane / August 2022 – May 2023

- Created a tutorial website to help computer science students better understand cryptocurrency and blockchain

Data Science Final Project

Tulane / October 2022 – December 2022

- Created a GitHub website that demonstrates and explains the data science pipeline using random forest regression

Activities and Community Service

Kappa Alpha Theta Sorority, Alpha Phi Chapter

Tulane / Member / January 2021 – present

- Member of social fraternity
- Fall 2021 Fundraising Director: the cabinet officer responsible for planning chapter fundraisers

Lycée Français de la Nouvelle-Orléans

Tulane / August 2022 – December 2022

- Supervised aftercare program for elementary students as part of service learning for Education in a Diverse Society class

Skills, Talents, & Achievements

- Programming: Python, MATLAB, C++, C, Java, R, LaTeX, SQL, HTML, Git
- Supervised Learning: linear and logistic regression, decision trees, random forest, k-nearest neighbors, SVM
- Unsupervised Learning: principal component analysis, k-means clustering