

# SARAH HELMBRECHT

512.968.4740  
skhelmbrecht@gmail.com  
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