# LOGAN REED

(512) 839 - 6662  $\diamond$  logan@loganreed.org

### **RESEARCH INTERESTS**

Computational Math, Mathematical Physics, Numerical Analysis, Optimization, PDEs, Scientific Computing.

### **EDUCATION**

Master of Science in Mathematics at Rutgers University-Camden 2021-2023 The Pólya-Szëgo Conjecture on Polygons: A Numerical Approach 3.96 GPA 2018-2021

Bachelor of Science in Applied Mathematics at Texas State University Minor in Computer Science. 3.52 GPA.

### PUBLICATIONS

Christopher Denaro, Nathaniel J Merrill, Sean T McQuade, Logan Reed, Karim Azer, and Benedetto Piccoli. A pipeline for testing drug mechanism of action and combination therapies: From microarray data to simulations via Linear-In-Flux-Expressions: Testing four-drug combinations for tuberculosis treatment. Math. Biosci., 2023

### WORK HISTORY

### Lecturer

· I taught a Mathematics for Liberal Arts course at Rutgers-Camden. I designed the structure and material of the class independently.

### **Research Assistant**

- I assisted in the creation of software accompanying research projects.
- · I generated graphics and data to be used in the lab's research.

### Linear Algebra TA

· I was a Teacher's Assistant for one section of Linear Algebra at Rutgers-Camden. I monitored canvas assignments, graded homework and exams, and maintained office hours for the students.

### Calculus Three TA

· I was a Teacher's Assistant for one section of Calculus Three at Rutgers-Camden. I ran the lab, graded homework and exams, and maintained office hours for the students.

### Part Time Lecturer

· I taught an Intro to College Algebra course at Rutgers-Camden. I designed the structure and material of the class independently, except for the standardized final exam.

### Calculus One TA

· I was a Teacher's Assistant for two sections of Calculus One at Rutgers-Camden. I set up the canvas pages, grade homework and exams, and maintain office hours for the students.

### Part Time Lecturer

· I taught an Intro to College Algebra course at Rutgers-Camden. I designed the structure and material of the class independently.

### Spring 2022-Winter 2023

Spring 2023

Fall 2023

### Spring 2023

### Fall 2022

### Spring 2022

## Fall 2021

Math Tutor at the Math and Stats Lab at Rutgers-Camden	2021-2022
$\cdot$ I tutored through the Department of Mathematics at Rutgers-Camden.	
Math Tutor at Math CATS	2018-2020
$\cdot$ I tutored through the Department of Mathematics at Texas State.	
$\cdot$ I gave talks at the beginning of each semester to new students with the goal of student outreach.	
Private Math Tutor	2018-
$\cdot$ I have tutored over 125 students, with 103 five star reviews.	

### INDEPENDENT STUDY TOPICS

### Spectral Theory

- $\cdot\,$  An independent study which resulted in studying unknown properties of the Dirichlet Laplacian.
- $\cdot\,$  Culminated in my Master's Thesis.

### Algebraic Topology

 $\cdot$  Studying from Algebraic Topology by tom Dieck and a book of the same name by Hatcher.

### Vertex Operator Algebras

· Studying from Introduction to Vertex Operator Algebras and Their Representations by Lepowsky and Li.

### Lie Algebra

- · An independent studies course on the classical results from the algebraic field of Lie Algebra.
- $\cdot\,$  The goal was to work through the prerequisites and eventually move to Vertex Operator Algebras.

### Analysis

· Working through Real and Complex Analysis by Rudin.

### A Study on Minimal Prime Graphs of Simple Groups

- $\cdot$  An independent study project with the goal of producing new Group Theoretic results using Graph Theory
- $\cdot$  The main focus was an enumeration algorithm for Triangle Free Three Colored Graphs, which correspond to Minimal Prime Graphs.

### **Complexes of DiGraph Homomorphisms**

 $\cdot\,$  An independent study project to produce results similar to Babson and Kozlov on DiGraphs

### K-Forcing on the Cartesian product of Simple Graphs

• Studying the bounds on the K-Forcing number for graphs which are the Cartesian product of common families of graphs, such as paths, cycles, and trees.

### AWARDS AND ACHIEVEMENTS

- $\cdot\,$  Distinguished Thesis Certificate 2023.
- $\cdot\,$  Mathematical Sciences Scholarship Award 2022.
- $\cdot\,$  Four time Dean's List recipient.

### EXTRA CURRICULAR ACTIVITIES

 $\cdot\,$  A member of the Problem Solvers Group at Texas State 2018-2019.

- $\cdot\,$  A member of the Math Club at Texas State 2018-2020.
- $\cdot\,$  Head Martial Arts Instructor from 2016-2018.

### **PROGRAMMING SKILLS**

- $\cdot\,$  Linux, IT, MatLab, Maple, Mathematica, SQL, Git
- $\cdot$  5+ years of Python/C++/C#/JavaScript
- · 4+ years of  $IAT_EX$