

LOGAN REED

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RESEARCH INTERESTS

Algebra, Computational Math, Numerical Analysis, Optimization, Representation Theory, 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

Bachelor of Science in Applied Mathematics at Texas State University 2018-2021
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 Fall 2023

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

Research Assistant Spring 2022-Winter 2023

- 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 Spring 2023

- 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 Spring 2023

- 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 Fall 2022

- 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 Spring 2022

- I am 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 Fall 2021

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

Math Tutor at the Math and Stats Lab at Rutgers-Camden

2021-2022

- I tutored through the Department of Mathematics at Rutgers-Camden.

Math Tutor at Math CATS

2018-2020

- I tutored through the Department of Mathematics at Texas State.
- I gave talks at the beginning of each semester to new students with the goal of student outreach.

Private Math Tutor

2018-

- I have tutored over 125 students, with 103 five star reviews.

INDEPENDENT STUDY TOPICS

Spectral Theory

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

Algebraic Topology

- 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.
- 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

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

Complexes of DiGraph Homomorphisms

- 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.

EXTRA CURRICULAR ACTIVITIES

- Distinguished Thesis Certificate 2023.
- Mathematical Sciences Scholarship Award 2022.
- A member of the Problem Solvers Group at Texas State 2018-2019.
- A member of the Math Club at Texas State 2018-2020.
- Head Martial Arts Instructor from 2016-2018.
- Four time Dean's List recipient.

PROGRAMMING SKILLS

- Linux, IT, MatLab, Maple, Mathematica, SQL, Git
- 5+ years of Python/C++/C#/JavaScript
- 4+ years of L^AT_EX