

Sam Pease

She/Her



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About me

Innovative research mathematician with a passion for interconnected areas, such as the Langland Program, which demand proficiency in diverse subjects. Eager to apply my skills in mathematics, coupled with a background in computer science and exceptional communication skills, to a dynamic research role within fields like data science or machine learning. Committed to utilizing my unique perspective as a trans woman to contribute to the development of equitable and inclusive systems.

Education

Ph.D. in Mathematics

[Rutgers University-Newark](#)

May 2025 4.0/4.0 GPA

Research Topics: Langlands Program, Number Theory, Representation Theory

Advisor: [Chen Wan, Ph.D](#)

B.S. in Mathematics & Computer Science with Distinction

[Duke University](#)

May 2020 3.7/4.0 GPA

Thesis: *Computing Values of Symmetric Square L-Functions using the Pull-back Formula.*

Advisor: [Aaron Pollack, Ph.D](#)

Skills

- Programming:** Python, Sage, Jupyter Notebook, Java, R
- Strong quantitative and problem-solving skills**, including the ability to research and learn from others
- Excellent presentation skills**, with the ability to simplify and effectively communicate complex ideas

Research Experience

PhD Researcher

[Rutgers University - Newark](#)

2020-Present
Newark, NJ

- Lead multi-year independent research project
- Cultivate expertise through continuous review of current academic research papers
- Collaborate with peers and mentors to communicate complex concepts and advance understanding

Program for Research for Undergraduates (PRUV) Fellow
[Duke Mathematics Department](#)

2019-2020
Durham, NC

- Utilized Sage programming to extract data from a database, applying linear algebra techniques to calculate values that were previously theoretical
- Presented research at a variety of levels to different audiences

WindAid Engineering Internship

[International NGO](#)

Summer 2017
Trujillo, Peru

- Conducted research and contributed to design improvements for wind turbines
- Designed an Arduino circuit to monitor and report data from remote wind turbine locations

Employment and Teaching Experience

Calculus Professor

[Rutgers University - Newark Math Department](#)

Spring 2022, Summer 2021&2023
Newark, NJ

- Taught Class, answered questions, and held office hours to reinforce learning
- Created lesson plans and Tests and managed homework assignments

Teaching Assistant

[Rutgers University - Newark Math Department](#)

Fall 2021, Fall 2022 - Spring 2024
Newark, NJ

- Led recitation sections and office hours
- Helped students by clarifying concepts and answer questions about the course and precalculus
- Achieved an above-average pass rate and received excellent reviews from students

Math Tutor

[Duke Math Help Room & Rutgers Tutoring Center](#)

Fall 2017 - May 2021
Durham, NC & Newark, NJ

- Assisted in teaching College and Linear Algebra and single and multivariable Calculus
- Helped lead initiative cementing prerequisite math material in student's minds
- Tutored students one-on-one outside of the help room

PWild Staffer

[Hiking Pre-orientation Program](#)

Fall 2017 - Spring 2020
Durham, NC

- Taught a semester-long half-credit Duke course that served to educate newer staffers through teaching hiking skills and leadership skills
- Led multi-day hiking trips for incoming students using non-directive leadership style to teach practical skills and outdoor philosophies

Lifeguard

[Duke Aquatics Center](#)

Fall 2016 - Spring 2020
Durham, NC

- Maintained concentrated observation of pool and its users in order to anticipate problems and to identify an emergency quickly
- Carried out rescues and initiated other emergency action as necessary

Projects

Cat Identification with Neural Network from Scratch

[Rutgers University - Newark](#)

Spring 2023
Newark, NJ

- Taught Class, answered questions, and held office hours to reinforce learning
- Created lesson plans and Tests and managed homework assignments

Differentiating Forest using Topological Data Analysis

[Duke University](#)

Spring 2017
Durham, NC

- Taught Class, answered questions, and held office hours to reinforce learning
- Created lesson plans and Tests and managed homework assignments