Rezwan N. Hoque

CONTACT
INFORMATION

https://rezrezrezrez.github.io/
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EDUCATION

Brooklyn College (CUNY), Brooklyn, NY
B.S. in Mathematics (Theoretical Concentration)　　　　Expected May 2026
GPA: 3.980

HONORS AND
AWARDS

Zimmerberg, Hyman J. '41 Fund for Undergraduate Research in Mathematics
(Spring 2024, Spring 2025)
Tow Mentoring Initiative Mentee (Spring 2024)
Dean's List (since Fall 2022)

PUBLICATIONS

Degeneracy and Sato-Tate Groups of $y^2 = x^{p^2} - 1$.
With Justin Chen, Heidi Goodson, and Sabeeha Malikah. Submitted 2025.
arXiv: https://arxiv.org/abs/2512.03299v1

Sato-Tate Groups and Distributions of $y^\ell = x(x^\ell - 1)$.
With Heidi Goodson. *Acta Arithmetica.*
221(4): 355-370 (2025)

PRESENTATIONS

Sato-Tate Groups and Distributions of $y^\ell = x(x^\ell - 1)$
AMS-PME Poster Session, Joint Mathematics Meetings (January 2025)

Sato-Tate Groups of Aoki Curves
Tow Mentoring and Research Student Conference (May 2024)

Decimal Expansions: How can we Skip Long Division?
CUNY DRP Poster Day (May 2023)

RESEARCH

Brooklyn College (CUNY) Brooklyn, NY
Research Assistant　　　　　　　　　　　　　　　　January 2024 - Present
- Collaborated with Prof. Heidi Goodson, PhD
- Determined Sato-Tate groups and distributions of nondegenerate curves $y^\ell = x(x^\ell - 1)$ and degenerate curves $y^2 = x^{p^2} - 1$ using algebraic and arithmetic geometry
- Computed theoretical moment statistics of normalized L-function coefficients via Sage and Python, optimized for $\sim 97\%$ reduction in runtime

SERVICE

Member, Brooklyn College Department of Mathematics Curriculum Committee
(March 2024 - Present)

Secretary, Mathematics Club of Brooklyn College (January 2024 - May 2025)

EMPLOYMENT AND EXPERIENCE	**CRC/SBS Summer Institute REU**	Brooklyn, NY
	Mentee	July 2025 - August 2025

- Worked under Dr. Terrence R. Blackman, Chair of Mathematics Department at Medgar Evers College
- Performed editorial work on a forthcoming biographical anthology presenting six contemporary African American mathematicians and their technical works

CUNY Directed Reading Program — New York, NY
Mentee — January 2023 - May 2023

- Studied elementary and algebraic number theory
- Presented findings on retrieving blocks of non-terminating decimal expansions and necessary and sufficient conditions for terminating decimal expansions

Mathnasium — Brooklyn, NY
Tutor — December 2021 - June 2022

- Mentored K-12 students in math via personalized plans