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, 2025)
Tow Mentoring Initiative Mentee (Spring 2024)
Dean's List (since Fall 2022)

PUBLICATIONS

Sato-Tate Groups and Distributions of $y^\ell = x(x^\ell - 1)$.
With Heidi Goodson. To appear in *Acta Arithmetica*.
arXiv: https://arxiv.org/abs/2412.02522

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 $y^\ell = x(x^\ell - 1)$ 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
- Currently investigating degenerate, hyperelliptic curves: $y^2 = x^{p^2} - 1$

SERVICE

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

Secretary of Mathematics Club, 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