

Alan Zhao

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HIGHER EDUCATION

Ph.D. Candidate, Mathematics, Columbia University, New York, NY Expected 2028

Co-Advised by Dorian Goldfeld & Ivan Corwin

Columbia College, Columbia University 2019-2023

B.A. in Mathematics and Computer Science

PUBLICATIONS

- *On a Kuznetsov Formula Without Continuous Spectrum*, preprint available upon request.
- *The ρ -Fourier Transform* (with J. Getz, A.G. Terradillos, F. Hosseinijafari, A. Slipper, G. Xi, H. Yao), submitted.
- *Modulation Groups* (with J. Getz, A.G. Terradillos, F. Hosseinijafari, A. Slipper, G. Xi, H. Yao), submitted.
- *Heights of rational points on Mordell curves. **Journal of Number Theory***, 272, pp.18-33.
- *The Frequency of Elliptic Curves Over $\mathbb{Q}[i]$ with Fixed Torsion. **Rose-Hulman Undergraduate Mathematics Journal***, 25(2), p.5.

CONFERENCES, WORKSHOPS, AND TALKS

(*) = contributed talk; (**) = invited talk

- AIM Workshop: Gibbsian Line Ensembles, Pasadena, CA, USA, 08/2026 (*)
- Fourth JNT Biennial Conference, Cetraro, Italy, 07/2026
- 4th Simons Math Workshop: Algebraic Methods in Probability, Long Island, NY, 07/2026 (*)
- Aarhus Automorphic Forms conference, Aarhus, Denmark, 08/2025 (*)
- 37th Automorphic Forms Workshop, Texas, USA (*)
- Building Bridges: 6th EU/US Summer School and Conference, Marseille, France, 08/2024
- SLMath Summer Schools
 - Koszul Duality in the Local Langlands Program, 07/2024
 - Geometry and Dynamics in Higher Rank Lie Groups, 07/2025
 - Percolation and Lattice Models of Statistical Physics, 06/2026

AWARDS

Honorable Mention, NSF Graduate Research Fellowship Program 2023

Rabi Scholar, Columbia University 2019-2023

ACTIVITIES

Organizer, Directed Reading Program in Mathematics	2023–
Editor, Columbia Undergraduate Journal of Mathematics	2023–
The Reading Team, Harlem	2023–
Sonia Kovalevsky Day Volunteer	2023–

EMPLOYMENT

Instructor, Calculus III, Columbia University	2026
Teaching Assistant in Mathematics, Columbia University	2021–
Teaching Assistant in Computer Engineering, Columbia University	2021-2023
▪ Computer science theory, computer networks, operating systems	
Systems Security Intern, NVIDIA, Santa Clara, CA	2022

MISC. SKILLS

- Linux kernel hacking (general and ARM architectures)
- Coding and information theory
- Fluent in English (reading, writing, speaking) and Chinese (reading, speaking)