

Education

University of California, Los Angeles

Bachelors and Masters in Mathematics

Los Angeles

2023 - 2027

Interested areas: Algebraic geometry and its applications in arithmetic and geometry and cryptography.

Graduate Coursework:

- Math 216 (Cluster Algebras), 235 (Contact Geometry), 245C (Real Analysis 3) Spring 2026
- Math 205B (Alg. NT 2, Modular Forms), 207B (Special values of L-functions), 225B (Differential Topology), 245B (Real Analysis 2) Winter 2026
- Math 205A (Alg. NT 1, Elliptic Curves), 245A (Real Analysis 1), 251A (PDE) Fall 2025
- Math 210C (Algebra 3), 214B (Algebraic Geometry 2) Spring 2025
197 (Modular Representation Theory with Raphaël Rouquier)
- Math 210B (Algebra 2), 226A (Differential Geometry), 214A (Algebraic Geometry) Winter 2025
- Math 210A (Algebra 1), 225A (Smooth Manifolds), 229A (Lie Groups and Lie Algebras) Fall 2024
- Math 225C (Algebraic Topology), 212A (Homological Algebra) Spring 2024

Research Experiences

University of California, Los Angeles

- Computational and Applied Mathematics REU June - August 2026
Scalable Collaborative Human-AI Reasoning in Mathematics, lead by Andrea Bertozzi and Terence Tao.
- Reading Course
Modular Representation Theory with Raphaël Rouquier Spring 2025
- Reading Group
The Arithmetic of Elliptic Curves, Silverman Ch. I-III, VIII.1, X.1 Spring 2025
Coorganized with Brian Shin, Boran Erol, Conor O'Quigley, Mikey Watts, and Nathan Ruyle.
- DRP: Local Fields with Jacob Swenberg Fall 2024
- DRP: The Grothendieck Group K_0 with Ben Spitz Winter 2024
- Grader for Math 115AH (Honors Linear Algebra) Spring 2024

Outside Experiences

- 43rd Workshop in Geometric Topology 2026 Utah Valley University, UT, June 18-20, 2026
- Topology & Algebraic Geometry University of Notre Dame, IN
Undergraduate Workshop Week June 2-6, 2025
- Preliminary Arizona Winter School 2024 Online
Mini-Course on Local Fields, including Hensel's lemma, Extensions and classification of Local Fields.
- Lean Proof Assistant Workshop HKU, Hong Kong
Run by Dr. Antoine de Saint Germain August 2024
Mini-project on formalizing Freize Patterns on Lean.
Project description: <https://arxiv.org/html/2407.16717v3>

Talks

At UCLA:

- Presentation for 235 May 29, 2026
Exact Lagrangian Cobordisms.
- Participating Algebra Seminar April 15, 2026
Intersection Forms and Riemann-Roch on Surfaces, reading seminar on Complex Surfaces.
- Presentation for 207B March 10, 2026
p-adic interpolation of the ζ -function.
- Participating Algebra Seminar February 11, 2026
Geometric realization of the Cox sheaf, reading seminar on Cox rings.
- Participating Number Theory Seminar November 25, 2025
The Gorenstein Criterion, reading seminar on Mazur's Eisenstein Ideal paper.
- GSO Seminar November 6, 2025
Importance of being imaginative, expository presentation on quaternions, quadratic forms, and Lagrange's four square theorem.

Outside UCLA:

- HKU Geometry Seminar August 2024
One of the presenters on the Lean formalization project on Frieze patterns in August 2024.

Writings

- *Modular Forms and the Kodaira-Spencer Isomorphism*, Final Project for 205B Winter 2026
- *Introduction to Geometric Motivic Integration*, Final Project for 245A Fall 2025
- *Moduli Stacks of Complex Elliptic Curves*, Final Project for 205A Fall 2025
- *Ado's Theorem*, Final Project for 229A Fall 2024
- *On the Coprime Product Series and Its Divergence and Bounds* December 2022
Gold (Asia), Bronze (Global), S.T. Yau High School Science Award

Outreach

UCLA Olga Radko Endowed Math Circle

- Assistant Instructor for Advanced 1B class

Los Angeles
Spring 2024

Skills and Activities

Language: English, Cantonese, Mandarin (Native), French, Spanish (Intermediate).

Extracurriculars:

- Opinion Columnist, Quad and Photo contributor at Daily Bruin, UCLA's newspaper (Fall 2023 -)
- Pianist at Bruin Chamber Musicians (Fall 2023 -)
- Cofounder of Hour Salon, club focusing on discussions of "issues of importance" in our times. (Spring 2024 - Spring 2025)
- Actor at Shakespeare Company at UCLA (Spring 2025), featuring in a production of Shakespeare's Twelfth Night.
- Member of Bruin-Runners, UCLA's running club (Fall 2024 -)

Nationality: Hong Kong.