August Dym Noë

noe@ucsc.edu REDACTED dymnoe.com

Education

University of California, Santa Cruz — *Sept 2021 – June 2025 (Expected)*
B.S. in Mathematics, GPA: 3.96, Dean's Honors.

Research

Optimal Laplacian Eigenmaps and Geometric Structures with John Ackerman, Al Farabie Akanda, Bernard Akwei, Luke Rogers, and Alexander Teplyaev. Funded by NSF Site DMS 2349433. — *In preparation (Expected summer 2025)*

Presentations

Optimal Laplacian eigenmaps and Geometric Structures at the 2025 JMM, AMS-PME Undergraduate Student Poster Session. — *January 10th, 2025*

Experience

REU At University of Connecticut Worked on open problems in topological data analysis; studied Laplacian eigenmaps on certain classical manifolds with and without boundary. I made conjectures and found strong numerical evidence on how to optimize such methods. — *Summer 2024*

Guided Independent Study for two quarters on general model theory, and specifically on valued fields and Hensel's lemma. Mentored by Dr. Martin Weissman with the plan to begin senior thesis Winter of 2025. — *Winter-Spring 2024*

Category Theory Reading Group following Emily Riehl's *Category Theory in Context*, members present weekly and on a rotating basis. — *October 2024-June 2025 (planned)*

Directed Reading Program:

- **Stone Spaces** Read and studied from of David Marker's *Peter T. Johnstone* alongside graduate student mentor Deewang Bhamidipati with whom I met weekly. Gave poster presentation to other participants in the program on what I learned. — *Winter 2025*
- **Model Theory** Read and studied from of David Marker's *Model Theory: An Introduction* alongside graduate student mentor Deewang Bhamidipati with whom I met weekly. Gave colloquium talk to peers and other participants in the program on what I learned. — *Spring 2024*
- **Banach Algebras** Read and studied from Graham Allan's *Introduction to Banach Spaces and Algebras*, meeting weekly with graduate student mentor Ryan Pugh and gave colloquium talk on the topic. — *Spring 2023*
- **Knot Theory** Read Colin Adams's *The Knot Book* with graduate student mentor Amethyst Price and gave colloquium talk on what I learned. — *Fall 2022*

President of Undergraduate Math Club (SUM) I have been a member of the undergraduate math club (Slugs United by Mathematics) for three years and president for over two. I have increased regular attendance of club from about 4 to over 20 weekly. I regularly plan events/activities and organize talks from visiting and local faculty and grad students, and work to build community in my major. — *2022-present*

Tutoring

- Small group tutor for Introduction to Proof and Problem Solving through the university. Met with 3 groups of 1-4 students once a week, and explained basic proof techniques, symbolic logic, and set theory problems for my students. — *Fall 2023*
- Freelance tutor, mainly in pre-calculus, calculus and linear algebra. — *Ongoing*

Other Skills

Programming and Typesetting: Proficient in LaTeXand HTML/CSS. Comfortable with basic MatLab, JavaScript, and Python, including NumPy and other vectorization.
Languages: English (native), French (conversational), German, Spanish (beginner)