

Nathan Louie

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RESEARCH INTEREST

I am currently interested in surfaces in 4-manifolds, particularly on the Freedman-Quinn, Dax, and Stong invariants.

EDUCATION

University of Texas Austin	Austin, TX
<i>Doctor of Philosophy in Mathematics</i>	<i>Aug. 2024 - Present</i>
University of Washington: 3.95	Seattle, WA
<i>Bachelor of Science in Mathematics with Distinction</i>	
<i>Honor Thesis: "Chern-Gauss-Bonnet Theorem"</i>	
<i>Bachelor of Science in Computer Science</i>	<i>Sept. 2021 - June 2024</i>

TALKS GIVEN

University of Texas Austin	
<i>Lightbulb Smoothing for Surfaces (Anthony Conway seminar)</i>	<i>Fall 2025</i>
<i>Introduction to the Square Sum Move (Cerf theory learning seminar)</i>	<i>Fall 2025</i>

TEACHING

Graduate Teaching Assistant	<i>University of Texas Austin, 2024 - Present</i>
<i>M408D: Sequences, Series, and Multivariable Calculus</i>	<i>Fall 2025</i>
<i>M408K: Differential Calculus</i>	<i>Spring 2026</i>

AWARDS AND HONORS

Dean's Strategic Fellowship	<i>University of Texas Austin, 2024 - 2029</i>
Wisniewski Endowed Scholarship	<i>University of Washington, 2024</i>
BAVA Scholarship	<i>University of Washington, 2021 - 2024</i>
Washington State Opportunity Scholarship	<i>University of Washington, 2021 - 2024</i>

CONFERENCES AND SUMMER SCHOOLS

Virginia Topology Conference	<i>University of Virginia - Charlottesville, VA, December 2025</i>
Knots, Groups, and Manifolds	<i>UQAM - Montreal, Canada, August 2025</i>
Modern Tools in Low-Dimensional Topology	<i>ICTP - Trieste, Italy, June 2025</i>
Georgia International Topology Conference	<i>University of Georgia - Athens, GA, May 2025</i>
Grad. Student Topology & Geometry Conference	<i>Indiana University - Bloomington, IN, April 2025</i>
South Central Topology Conference IV	<i>Texas A&M University - College Station, TX, March 2025</i>
Georgia Topology Summer School	<i>University of Georgia - Athens, GA, May 2024</i>
Summer School on Dynamical Systems	<i>Northwestern University - Evanston, IL, June 2023</i>

SERVICES AND OUTREACH

Mentor, Directed Reading Project	<i>University of Texas Austin, 2024 - Present</i>
<i>Fall 2024: Advay V. (Applied Topology)</i>	
<i>Spring 2025: Allison P. (Knotted Surfaces)</i>	
<i>Summer 2025: Ishan G. (Differential Geometry)</i>	
<i>Fall 2025: Nathan R. (Khovanov Homology)</i>	
Volunteer, Sunday Morning Math Group	<i>University of Texas Austin, 2024 - Present</i>
Panelist, Meet a Mathematician	<i>University of Washington, 2024</i>
Judge, Math Olympiad	<i>University of Washington, 2023 - 2024, 2023</i>
Mentor, Undergraduate Reading Group	<i>University of Washington, 2022 - 2024</i>
<i>Mentored advanced undergraduate students on graduate-level math courses.</i>	