

Mica Li

Website

myl010 at ucsd dot edu

Introduction

I am a fourth-year undergraduate student at UCSD. I am broadly interested in Lie theory, classical geometry, and low-dimensional topology. Previously I worked on creating a new theoretical method to solving the Laplacian on surfaces with irregular mesh triangulation. I am currently working with Prof. Albert Chern on generalizing the geometric ideas of harmonic functions in non-Euclidean spaces.

Education

University of California - San Diego
B.S., Mathematics (3.93)

September 2021 – Present
Expected June 2025

Current Work

1. **Harmonic Functions in Lie Sphere Geometry** advised by Prof. Albert Chern.

Past Activities

2. **Directed Reading on Lie Theory** with Professor Lei Ni - Summer 2024
1. **Directed Reading Program on Riemannian Manifolds** advised by Robert Koirala (graduate student) - Spring 2024

Publications

1. **Closest Point Exterior Calculus** with Michael Owens, Juheng Wu, Grace Yang, and Albert Chern. *SIGGRAPH Asia. December 2023*. [pdf][doi]

Presentations & Talks

4. **An Introduction to Riemannian Manifolds.** *UCSD Department of Mathematics Directed Reading Program. June 2024*
3. **Harmonic Functions in Lie Sphere Geometry.** *UCSD Summer Research Conference. August 2023*
2. **Geometry Processing with Closest Point Exterior Calculus** with Michael Owens, Grace Yang, and Juheng Wu. *Jacobs School of Engineering Undergraduate Research Symposium. June 2023*
1. **Proposal of a New Method to Solving PDEs on a Surface** with Michael Owens, Grace Yang, and Juheng Wu. *UCSD CSE Department's ERSP Proposal Presentations. December 2022.*

Awards & Honors

Ledell Family Research Scholarship for Science and Engineering
UCSD

July-August 2023

Provost Honors
UCSD

2021-present

ERC Sophomore Honors
UCSD

2022

Employment

UCSD

Grading

6. Fall 2024: Math 142A (3 Sections) - Real Analysis I
5. Summer II 2024: Math 142B - Real Analysis II
4. Summer I 2024: Math 142A - Real Analysis I
3. Spring 2024: Math 109 - Mathematical Reasoning
2. Winter 2024: Math 109 - Mathematical Reasoning
1. Fall 2023: Math 140A - Honors Real Analysis I

Organizations

2. **Society of Undergraduate Mathematics: Vice President Internal - 2024 - 2025**
Organized a mentorship program for students in the math program, and led a workshop on an introduction to upper division courses, among other events.
1. **Society of Undergraduate Mathematics: Tech Chair - 2022 - 2024**
Maintained the SUMS website and worked on organizing events including leading a workshop on Vector Calculus, a LaTeX workshop, and led a workshop on research in mathematics.