

Mica Li

UCSD

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Introduction

I am a fourth-year undergraduate student at UCSD. I am broadly interested in Lie theory, Riemannian 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 (3.94)

September 2021 – Present
Expected June 2025

Current Work

2. **Directed Reading Program on Lie Theory** advised by Prof. Lei Ni
1. **Harmonic Functions in Lie Sphere Geometry** advised by Prof. Albert Chern.

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

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

Society of Undergraduate Mathematics Vice President Internal - 2024 -

Organized and lead a workshop on undergraduate research and lead a workshop on an introduction to upper division courses, among other events.

SUMS Tech Chair - 2022 - 2024

Maintained the SUMS website and worked on organizing events including leading a workshop on Math 20E - Vector Calculus.