SHANA YUNSHENG LI

Phone: (217) 766-6532 ⋄ Email: yl202@illinois.edu ⋄ Homepage: shana-y-li.github.io

EDUCATION

University of Illinois Urbana-Champaign	2024 - Now
Ph.D. in Mathematics	Advisor: Nathan Dunfield
Southern University of Science and Technology	2022 - 2024
M.Sc in Mathematics	Advisor: Stavros Garoufalidis
Southern University of Science and Technology	2018 - 2022
B.Sc in Mathematics and Applied Mathematics with Honors	

RESEARCH INTEREST

Low-dimensional Topology; Mathematical Physics; Quantum Topology; Knot Theory; Hyperbolic 3-Manifolds.

PUBLICATIONS

2. (with Stavros Garoufalidis) Patterns of the V_2-polynomial of knots, submitted preprint, 17 pages, arXiv:2409.03557.

1. (with Ni An and Stavros Garoufalidis) Algebraic aspects of holomorphic quantum modular forms, Research in Mathematical Sciences. 11 (2024) no. 3, Paper No. 54, 1-20.

PROJECTS

2. (with Stavros Garoufalidis) V_2-polynomials of slalom knots, ongoing.

1. (with Nathan Dunfield) Census of 10 tetrahedra oriented cusped hyperbolic manifolds, ongoing.

THESES

M.Sc	On the Quantum Modularity Conjecture for Knots
B.Sc	Foundation of Supergeometry and Its Application in Mathematical Physics

TALKS

May. 2025	Conference talk at GTA Philadelphia 2025, 10th annual Graduate Student Conference in Algebra, Geometry, and Topology (GSCAGT) at Temple University Topic: Multivariable knot polynomials, the V_n-polynomials, and their patterns.
Apr. 2025	Invited online talk at the Shanghai Institute for Mathematics and Interdisciplinary Sciences (SIMIS). Topic: Multivariable knot polynomials, the V_n-polynomials, and their patterns.
Mar. 2025	Seminar talk at the Graduate Geometry-Topology Seminar (UIUC). Topic: Multivariable knot polynomials, the V_n-polynomials, and their patterns.
Mar. 2024	Seminar talk at the Graduate Topology Seminar (SUSTech). Topic: The Teichmüller TQFT and the quantum modularity conjecture.

UPCOMING TALKS

Aug. 2025	Seminar talk at the Group, Geometry and Topology Seminar (UIUC). Topic: Multivariable knot polynomials, the V_n-polynomials, and their patterns.

TEACHING

Spring 2025	IML graduate leader of undergraduate research project Visualizing Spaces of Curves in 3-manifolds.
Autumn 2022	Teaching assistant of MA109 (Advanced Linear Algebra).

AWARDS

Spring 2024	Outstanding Graduate Graduates Award
	Outstanding Master Thesis Award
Autumn 2022	Outstanding Teaching Assistant Award
Spring 2022	Outstanding Undergraduate Graduates Award
	Outstanding Undergraduate Thesis Award

OUTREACH - PIANO PERFORMANCES

Autumn 2023	"Moment · Eternity" Concert	Steinway Garden in Shenzhen Concert Hall
Spring 2022	"Youth Poetry and Music" Chamber Music Concert	Shenzhen Concert Hall
Autumn 2021	National Science & Technology University Aesthetic Education Seminar Concert	
		Steinway Garden in Shenzhen Concert Hall
Autumn 2020	Lang Lang's Piano Masterclass	SUSTech 10th Anniversary
Autumn 2019	Haochen Zhang's Piano Masterclass	