Yandi Wu

Rice University
Department of Mathematics
Houston, TX 77005

yandi.wu@rice.edu
https://yandiwu.github.io/

Employment

Lovett Instructor — 2024 -
Rice University — Houston, TX

Education

University of Wisconsin, Madison — 2018 - 2024
PhD Mathematics, Advisors: Tullia Dymarz, Caglar Uyanik — Madison, WI
Minor in Computer Science

University of California, Berkeley — 2014 - 2018
BA Mathematics (High Honors) — Berkeley, CA

Budapest Semesters in Mathematics — Fall 2017
Semester Abroad — Budapest, Hungary

Research Interests

Low-dimensional topology, geometric group theory, hyperbolic geometry, and geometric rigidity theory, including applications to orbifolds, manifolds, and generalizations.

Publications & Preprints

1. A Topologically Rigid Set of Quotients of the Davis Complex.
   Geom. Dedicata, 217 (2023), 1-20.
2. Marked Length Spectrum Rigidity for Surface Amalgams.
   Under revision for publication in *Trans. Amer. Math. Soc.*
3. Subactions for Locally CAT(-1) Spaces.
   arXiv Preprint, 2024. (w/ D. Constantine, E. Shrestha)
4. Isospectral Hyperbolic Surface Amalgams.
   arXiv Preprint, 2024.

Honors & Awards

Excellence in Research Graduate Student Award — 2023
"For significant and substantial contributions to research" — Madison, WI

Elizabeth S. Hirschfelder Award — 2022
"For exceptional research done by a female graduate student" — Madison, WI

Outstanding Service Award — 2022
"For special service to the department" — Madison, WI

Outstanding TA Award — 2021
"For excellence in the classroom across multiple semesters" — Madison, WI

Invited Talks (Conferences)

Midwest Summer School in Geometry, Topology, and Dynamics (Madison, WI) — Jun 2025

Joint Math Meetings (Seattle, WA) — Jan 2025
Women in Groups, Geometry, and Dynamics Special Session

KIAS-Rice Workshop on Geometric Topology (Seoul, Korea) — Sept 2024

	AMS Central Fall Sectional Meeting (San Antonio, TX) Geometric group theory and low dimensional topology	Sept 2024
	AMS Central Spring Sectional Meeting (Milwaukee, Wisconsin) Special session in developments in hyperbolic-like geometry and dynamics	April 2024
	Joint Math Meetings (San Francisco, CA) Special Session in Geometric Group Theory	Jan 2024 Jan 2024
	World of GroupCraft III (online)	Sept 2023
	Spring Topology and Dynamics Seminar (online) Special Session in Geometric Group Theory	Mar 2023
Invited Talks (Seminars)	Yale University Geometry & Topology Seminar	Dec 2024
	Wesleyan University Topology, Geometry, & Dynamics Seminar	Dec 2023
	University of Minnesota, Twin Cities Geometry Seminar	Nov 2023
	Vanderbilt University Topology & Group Theory Seminar	Nov 2023
	Brandeis University Topology Seminar	Nov 2023
	University of Illinois, Chicago Geometry, Topology, & Dynamics Seminar	Nov 2023
	University of Wisconsin, Madison Dynamics Seminar	Oct 2023
	Rice University Topology Seminar	Aug 2023
	University of Wisconsin, Milwaukee Topology Seminar	April 2023
	The Ohio State University Topology and GGT Seminar	Nov 2022
	BSU-Toledo Joint Geometry and Topology Seminar	Sept 2022
Contributed Talks	Underrepresented Students in Topology and Algebra Research Symposium	Mar 2023

Service & Outreach

Member, Rice Math Department Colloquium Committee (Fall 2024): Invite and host external speakers for weekly departmental colloquium.

Co-organizer, Rice Topology Seminar (Fall 2024 - present): Plan and organize weekly Topology seminar.

Co-organizer, UW Madison AMS Student Chapter Seminar (Spring 2021 - Spring 2023): Plan and organize weekly department-wide graduate student seminar.

Co-organizer, Gender Minorities in Mathematics At Wisconsin (Fall 2020 - Spring 2022): Organize professional development and social events for gender minorities in the department, coordinate GMMaW colloquiums.

Member, UW Madison Committee on TA Policies and Procedures (Spring 2022): Evaluate TAs in the math department, determine policies for TA responsibilities.

Referee Work (2024 - present): *Groups, Geom., Dyn.*

Mentoring

Madison Experimental Mathematics Lab — Spring 2023
Project: *Hyperbolic Geometry and Crochet* — Madison, WI
Graduate mentor for four undergraduate students

Big Ideas in Dynamics — Fall 2022
Topic: *Length functions on currents and applications to dynamics & counting* — Online
Graduate Mentor for graduate reading group

Madison Experimental Mathematics Lab — 2022 - 2023
Project: *Random Symmetrics of Hyperbolic Space* — Madison, WI
Graduate mentor for four undergraduate students

Girls' Night Out — Spring 2020
Project: Mathematics of Epidemics — Madison, WI
Graduate Mentor for three high school students

Directed Reading Program — Fall 2018
Topic: *Office Hours with a Geometric Group Theorist* — Madison, WI
Graduate mentor for three undergraduate students

Outreach Talks

SIAM Student Chapter Seminar — Mar 31, 2023
How I landed my summer internship — Madison, WI

UW Madison Math Circle — Feb 2019, Sept 2021
Cut and Paste Topology — Madison, WI

Teaching Experience

Instructor — Houston, TX
Math 102 (Calculus II) — Fall 2024

Instructor — Madison, WI
Math 131 (Problem solving in Algebra, Geometry, and Statistics) — Summer 2021

Teaching Assistant Coordinator — Madison, WI
Math 234 (Calculus III) — Fall 2021*, Spring 2021*, Fall 2020, Spring 2020*
Math 222 (Calculus II) — Fall 2022*, Spring 2023*
Math 221 (Calculus I) — Fall 2019

Teaching Assistant — Madison, WI
Math 222 (Calculus and Analytic Geometry II) — Fall 2018, Spring 2019*

* Received "superior" rating awarded to top 30% of TAs every semester

Industry Experience

Reddit, Ads Prediction Team — New York, NY
Data Science Intern — Summer 2023

- **Machine Learning**: Implement model calibration techniques to decrease calibration error of decision tree model in production by up to 30 percent.
- **Data Science**: Build Mode dashboards to visualize how different sectors, such as geographic location, ad industry, and user frequency, affect model calibration.

- Present on state-of-the-art model calibration techniques for modern Deep Neural Networks at company-wide Ads Journal Club.

US Army Corps of Engineers, Geospatial Research Lab Alexandria, VA
NSF Mathematical Sciences Graduate Internship Program Summer 2022

- **Computer vision**: Implement automated building damage assessment by GPU-powered neural networks on satellite images of natural disaster sites.

- **Transfer Learning**: Implement domain adaptation techniques that increased model accuracy by up to 6 percent.
- White paper, *Transfer Learning Techniques for Building Damage Assessment*, and NSF MSGI Research Symposium slides available on website.