Jessica J. Zhang

jjzhang@college.harvard.edu
jessicajzhang03.github.io

Education

Harvard University, AB-AM in mathematics   2021–present
Overall GPA: 4.0/4.0

Experience

Rutgers Symplectic Summer School   2024
Participated in a summer school for advanced topics in symplectic geometry, including global Kuranishi charts, integer-valued curve-counting invariants, Hamiltonian dynamics, and contact topology.
Princeton RTG Summer School in Geometry and Topology   2023
Attended a summer school for 30 advanced undergraduates and first-year graduate students; topics included Heegaard Floer homology, pseudoholomorphic curves, and surfaces in 4-manifolds.
Harvard Directed Reading Program   2022–2023
Worked on reading projects on Morse theory and Hamiltonian Floer theory, following lecture notes by Chris Wendl and a book by Michèle Audin and Mihai Damian, with Maxim Jeffs.
UC Davis Pure and Applied Math REU   2022
Conducted research with Roger Casals on finding arboreal Lagrangian skeleta for certain 4-manifolds with simple Weinstein handlebody diagrams.

Honors

Herchel Smith Undergraduate Research Fellow   2024
Barry M. Goldwater Scholar   2024
Phi Beta Kappa "Junior 24"   2024
Harvard College Research Program (HCRP) Fellow   2023
Karl Menger Memorial First Place Award   2021
Regeneron ISEF Finalist and Second Place in Mathematics   2021
Regeneron Science Talent Search Finalist   2021

Publications

"Classification of tight contact structures on a solid torus" with Zhenkun Li. To appear in *Mathematical Research Letters*. `arxiv:2006.16461`

"Exponents of Jacobians of graphs and regular matroids" with Hahn Lheem, Deyuan Li, and Carl Joshua Quines. *Rose-Hulman Undergraduate Math Journal*, 2020. `arxiv:1910.06442`

Presentations

"The Lee Spectral Sequence for Band Sums" at the 2024 Joint Mathematics Meetings   2024
"Classification of tight contact structures on a solid torus" at the 2021 Joint Mathematics Meetings   2021
"Exponents of Jacobians of connected regular matroids" at the 2020 Joint Mathematics Meetings   2020

Teaching

Course assistant for Math 132: Differential Topology, taught by Benjamin Gammage   2024
Course assistant for Math 122: Algebra 1, taught by Noam Elkies   2023
Course assistant for Math 55b: Studies in Real and Complex Analysis, taught by Joe Harris   2023
Course assistant for Math 55a: Studies in Algebra and Group Theory, taught by Joe Harris   2022