

Benjamin Yamin Zhou

Lunt Hall B06, Department of Mathematics
Northwestern University, Evanston, IL
Email: byzhou01@math.northwestern.edu

EDUCATION

Department of Mathematics, Northwestern University *9/2018 - Present*
Ph.D. candidate in Pure Mathematics
Advisor: Eric Zaslow

Department of Computer Science, Stanford University *2015-2017*
M.S. in Computer Science
Dual Concentration in Artificial Intelligence, Theoretical Computer Science
Advisor: Serafim Batzoglou

Department of Mathematics, Stanford University *2012-2016*
B.S. with Honors in Mathematics
Advisor: András Vasy
Undergraduate thesis: *Spacetime Geometries*

RESEARCH INTERESTS

My main research interests are in Gromov-Witten theory, Mirror Symmetry, Mathematical Physics, Algebraic Geometry, Symplectic Geometry. I also have interests in analysis and design of algorithms, machine learning, and statistical learning theory.

PUBLICATIONS

- *Metagenomic-based analysis of biofilm communities for electrohydrogenesis: From wastewater to hydrogen.* Varrone, C. J. D. Van Nostrand, W. Liu, B.Y. Zhou, Z. Wang, F. Liu, Z. He, L. Wu, J.-Z. Zhou, and Aijie Wang. 2014. International Journal of Hydrogen Energy.39: 4222-4233.
- *Random Sampling Process Leads to Overestimation of β -Diversity of Microbial Communities.* Zhou, J-Z., Y.H. Jiang, Y. Deng, Z. Shi, B.Y. Zhou, K. Xue, L. Wu, Z. He, and Y. Yang. 2013. mBio 4: e00324-13 (doi:10.1128/mBio.00324-13).

HONORS AND AWARDS

"Excellence as a Graduate Teaching Assistant" Departmental Award *2022*
NSF RTG: Analysis on Manifolds *2019*
Semifinalist, Siemens Competition in Math, Science, and Technology *2012*
National Finalist, Siemens Competition in Math, Science, and Technology *2011*

TEACHING

TA for Math 368: Introduction to Optimization, Northwestern University *Spring 2022*
TA for Math 340: Geometry, Northwestern University *Spring 2022*
TA for Math 366-1: Mathematical Models in Finance, Northwestern University *Winter 2022*
TA for Math 336-1: Introduction to the Theory of Numbers, Northwestern University *Winter 2022*
TA for Math 342: Introduction to Differential Geometry, Northwestern University *Fall 2021*
TA for Math 320-1: Real Analysis, Northwestern University *Fall 2021*
TA for Math 300: Foundations of Higher Mathematics, Northwestern University *Spring 2021*

TA for Math 230-2: Multivariable Integral Calculus, Northwestern University	<i>Winter 2021</i>
TA for Math 230-1: Multivariable Differential Calculus, Northwestern University	<i>Fall 2020</i>
TA for Math 230-1: Multivariable Differential Calculus, Northwestern University	<i>Fall 2019</i>
TA for CS 229: Machine Learning, Stanford University	<i>Fall 2016</i>

TALKS

Graduate Student Seminar, Northwestern University	
<i>Every smooth cubic surface has exactly 27 lines</i>	<i>5/2021</i>

CONFERENCES ATTENDED

IHÉS Summer School in Enumerative Geometry, Physics, Representation Theory	<i>7/2021</i>
--	---------------

SERVICE AND OUTREACH

Tutoring of linear algebra, real analysis to Northwestern undergraduates	<i>Winter, Spring 2020</i>
--	----------------------------

PREVIOUS WORK EXPERIENCE

Data Scientist, DeepThink Health	<i>2018</i>
Research Assistant, Stanford Undergraduate Research in Computer Science	<i>2016</i>
Research Assistant, Stanford Undergraduate Research in Mathematics	<i>2015</i>
Software Engineering Intern, xAd Inc.	<i>2015</i>

MISCELLANEOUS

Programming languages: Python, C++, Java, Sage
--