

Shashank Sule

CONTACT INFORMATION	1304 William E. Kirwan Hall 4176 Campus Drive University of Maryland College Park, MD 20740-4015	ssule25@umd.edu
EDUCATION	University of Maryland, College Park Ph.D. candidate in Applied Mathematics, Statistics, and Scientific Computation Amherst College A.B. Mathematics, <i>summa cum laude</i> Thesis: Two Multiresolution Frameworks on Graphs Massachusetts Institute of Technology Special Student in the Mathematics Department Budapest Semesters in Mathematics	2020–2025 2016–2020 Spring 2019 Fall 2018
RESEARCH INTERESTS	Applied Harmonic Analysis, Machine Learning, Rare Events	
PUBLICATIONS	<i>Sobolev Orthogonal Polynomials on the Sierpinski Gasket</i> (Journal of Fourier Analysis and Applications, 2021). Qingxuan Jiang, Tian Lan, Kasso Okoudjou, Shashank Sule , Robert Strichartz, and Sreeram Venkat, and Xiaoduo Wang. <i>Error analysis of target measure diffusion maps and applications to transition path theory.</i> Shashank Sule , Luke Evans, Maria Cameron (In preparation). <i>Emergence of the SVD as an interpretable factorization in deep learning for inverse problems.</i> Shashank Sule , Richard G. Spencer, Wojciech Czaja (In preparation).	
AWARDS & FELLOWSHIPS	Jacob K. Goldhaber Travel Grant: Michael Brin Graduate Fellowship Dean's Fellowship, University of Maryland The Robert H. Breusch Prize for the best undergraduate thesis in Mathematics and Statistics The Walker Award in Mathematics and Statistics Amherst Memorial Fellowship Loeb Center Summer Experience Fellowship Sarles Fellowship, Amherst College Gregory S. Call Academic Internship	Sept. 2022 Aug. 2020–Jun. 2024 Aug. 2020–Jun. 2022 May 2020 May 2020 Aug. 2020–Jun. 2021 Jun. 2019 Jun. 2018 Aug. 2017–May 2018

	Davis United World College Scholarship	Aug. 2016–May 2020
	First Place and Outstanding Award (SCUDEM 2018)	Apr. 2018
TALKS	Joint Mathematics Meetings 2020	Jan. 2020
	AMS Contributed Session on Functional Analysis, Operator Theory, and Operator Algebras I	
	University of Maryland	
	Norbert Wiener Center RIT	Sept. 2021
	Deep Learning RIT	Dec. 2021
	Machine Learning for rare events RIT	Dec. 2021
	Student PDE seminar	Apr. 2022
	Southeastern Undergraduate Mathematics Workshop	Aug. 2019
	Georgia Institute of Technology	
POSTERS	University of Maryland	Oct. 2022
	Fall Forier Talks	
	Descrambling the descrambler: Do all roads lead to the SVD?	
	Universita di Genova	Sept. 2022
	Applied Harmonic Analysis and Machine Learning Summer School	
	<i>Error analysis of Target Measure Diffusion Maps on \mathbb{R}^d</i>	
	Ohio State University	Aug. 2019
	Young Mathematicians Conference	
	<i>Sobolev Orthogonal Polynomials on the Sierpinski Gasket</i>	
	Amherst College	Aug. 2018
	Annual Summer Research Symposium	
	<i>Normality of Toric Rings and Rees Algebras of Strongly Stable Ideals</i>	
ACTIVITIES & EMPLOYMENT	Co-organizer, Research Interaction Team	Sept. 2022
	Machine Learning for Rare Events	
	Co-organizer, Research Interaction Team	Feb. 2022
	Deep Learning	
	PhD Intern	Summer 2022
	National Institute of Aging, NIH	
	Computing Co-ordinator	Aug 2021-May 2022
	Norbert Wiener Center, UMD	
	Research Assistant	Aug, 2021-May 2022
	UMD Mathematics Department	
	PhD Intern	Summer 2021
	Centre for Bioinformatics and Computational Biology, UMD	
	Cornell University SPUR/REU	Summer 2019
	Analysis on Fractals	
	Amherst College SURF	Summer 2018
	Algebraic Geometry	
	Research Assistant	Aug. 2017– May 2018

Economics Department, Amherst College	
Co-Chair	Spring 2018
Amherst College International Students' Association	
Treasurer	Spring 2017
Amherst College South Asian Students' Association	
Staff Writer	Fall 2017
The Indicator	
Support Facilitator	Jun. 2015, 2016, 2017
UWC Mahindra College	

TEACHING
EXPERIENCE

Teaching Assistant, Amherst College

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|---|-------------|
| • MATH 250—Number Theory | Spring 2020 |
| • MATH 320—Wavelets and Fourier Analysis | Fall 2019 |
| • MATH 220—Mathematical Reasoning and Proof | Fall 2019 |
| • ECON 330—Macroeconomics | Spring 2018 |
| • CHEM 160—Chemical thermodynamics | Fall 2017 |

SKILLS AND
LANGUAGES

MATLAB, Julia, Mathematica, Python, R

Github: <https://github.com/ShashankSule>

English (native), Marathi (native), Hindi (native), Spanish (reading and writing proficiency), Hungarian (reading proficiency)