

# Kritika Singhal

The Ohio State University  
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## Education

- The Ohio State University** 2014 - present  
PhD in Mathematics  
Advisors - Facundo Mémoli and Anastasios Sidiropoulos  
GPA - 3.93/4.0
- Indian Institute of Science Education and Research Mohali** 2009 - 2014  
Integrated BS-MS in Mathematics  
Master's Thesis - Pfister Numbers of Quadratic Forms  
GPA - 9.0/10.0
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## Publications and Preprints

- Fractal Dimension and Lower Bounds for Geometric Problems**  
(with Anastasios Sidiropoulos, Vijay Sridhar)  
ACM Symposium of Computational Geometry, SoCG 2018  
*Invited to SoCG 2018 special issue of Discrete and Computational Geometry*  
arXiv:1712.04595
- Sketching and Clustering Metric Measure Spaces**  
(with Facundo Mémoli, Anastasios Sidiropoulos)  
arXiv:1801.00551
- A primer on Persistent Homology of finite metric spaces**  
(with Facundo Mémoli)  
Submitted.
- Metric Spanners**  
(with Facundo Mémoli, Anastasios Sidiropoulos)  
Under preparation.
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## Talks Delivered

- Sketching and Clustering Metric Measure Spaces** January 2019  
TGDA Seminar, The Ohio State University
- Fractal Dimension and Lower Bounds for Geometric Problems** June 2018  
ACM Symposium of Computational Geometry 2018, Budapest, Hungary

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## Workshops/Conferences Attended

|   |                |
|---|----------------|
| Symposium of Computational Geometry, 2018<br>Budapest, Hungary  | June 2018      |
| Topology, Geometry and Data Analysis (TGDA) Summer School and Workshop<br>Mathematical Biosciences Institute, Columbus, OH, USA | May 2018       |
| Discrete Optimization via Continuous Relaxation<br>Simons Institute for the Theory of Computing, Berkeley, USA                  | September 2017 |

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## Teaching Experience

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| Teaching Assistant for Calculus I at OSU   | Fall 2014                                |
| Teaching Assistant for Calculus II at OSU  | Spring 2015 and Fall 2015                |
| Teaching Assistant for Calculus III at OSU | Spring 2016, 2017 and<br>Fall 2016, 2017 |

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## Awards and Fellowships

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|---|------------------------|
| Special Graduate Assignment Fellowship, Department of Mathematics, OSU          | Fall 2018, Spring 2019 |
| Innovation in Science and Pursuit for Inspired Research<br>(INSPIRE) Fellowship | 2009-2014              |
| Indian Academy of Sciences Summer Research Fellowship                           | 2012                   |

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## Service

Sub-reviewer for SODA 2018, ICALP 2018

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## Technical Skills

MATLAB, Python, L<sup>A</sup>T<sub>E</sub>X, MS Office