

# Rashmika Goswami

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## Education

Rutgers University: Mathematics PhD (2018 - Present)

University of Michigan - Ann Arbor: Computer Science BSE, Minor in Mathematics (2014-2018)

## Research Interests

Discrete mathematics and theoretical computer science, specifically: analysis of Boolean functions, social choice theory, and design and analysis of algorithms.

## Publications and Preprints

- C.A. Brown, C.S. Carrillo Vazquez, R. Goswami, S. Heil, M. Scheepers, “The Sortability of Graphs and Matrices under Context Directed Swaps”, Preprint: <https://arxiv.org/abs/1904.03287>

## Teaching Experience

- Instructor for Rutgers Young Scholars Program (Summer 2021)
  - Graph Theory: designed and taught a one-week introductory graph theory course for advanced high school students.
- Teaching Assistant at Rutgers University
  - Math 135: Calculus I for the Life and Social Sciences, Recitation Instructor (Fall 2019)
  - Math 481: Mathematical Theory of Statistics, TA at Large (Spring 2020)
- Instructional Aide at the University of Michigan
  - EECS 376: Foundations of Computer Science (Fall 2016, Fall 2017)
  - EECS 203: Discrete Math (Winter 2017, Winter 2018, Spring 2018)

## Research Experience

- Rutgers Graduate Assistant (Fall 2019 - Present)
- NSF REU, Boise State University (REU CAD) (May 2017 - July 2017)
  - Sorting, Graphs and Games
- NSF REU, Michigan State University (SURIEM) (May 2016 - July 2016)
  - Games on Graphs
- Undergraduate Student Researcher, Biomedical and Clinical Informatics Lab, University of Michigan (September 2014 - February 2016)
  - An Automated System for Analysis of Coronary Angiograms
  - Automated Active Shape Modeling for Medical Image Segmentation

## Technical Skills

- Familiar with Python, C++, Matlab, LaTeX
- Seen basics of Java, HTML, Maple, SQL

## Conferences and Workshops

- MSRI Summer School: Probabilistic Proofs (Summer 2021)
- Erdős Institute: Data Science Bootcamp (Summer 2021)

## Service

- Seminar Co-organizer
  - Rutgers Theory of Computing Reading Group (Fall 2020 - Present)
  - Rutgers Graduate Pizza Seminar (Fall 2019 - Spring 2020)
- Directed Reading Program, Rutgers University
  - Coordinator (Summer 2021 - present)
  - Mentor (Spring 2019)
- AMS Graduate Chapter, Treasurer (Fall 2020 - Present)

## Talks

- Rutgers seminar presentations (Spring 2019 - Present): gave multiple presentations at the Graduate Combinatorics Seminar, Graduate Pizza Seminar, Theory of Computing Reading Group, and Combinatorics Reading Seminar.
- Joint Math Meetings (JMM) 2018: The Sortability of Graphs and Matrices Under Context Directed Swaps
- Young Mathematician's Conference (YMC) 2017: The Mathematical Dynamics of Ciliate Gene Sorting Algorithms

## Honors

- School of Arts and Sciences (SAS) Excellence Fellowship (2018-2019)
- Academic Excellence Award, Rutgers University (2019)
- Dean's List (2014-2017), University Honors (2014-2017) and James B. Angell Scholar (2016-2017), University of Michigan
- Engineering Scholarship of Honor, University of Michigan (2013)