

# Hannah Friedman

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## EDUCATION

### University of California, Berkeley

Expected May 2028

PhD in Mathematics

### Harvey Mudd College

May 2023

BS in Mathematics with High Distinction, Honors in Mathematics

Thesis advised by Michael Orrison

## PUBLICATIONS

- The Two Lives of the Grassmannian (with Bernd Sturmfels and Karel Devriendt, submitted to *Acta Universitatis Spientiae, Mathematica*; see <https://arxiv.org/abs/2401.03684>.
- Likelihood Geometry of Determinantal Point Processes (with Bernd Sturmfels and Maksym Zubkov), to appear in *Algebraic Statistics*; see <https://arxiv.org/abs/2307.13486v1>.
- Long Increasing Subsequences (advised by Michael Orrison), senior thesis. <https://tinyurl.com/friedman-senior-thesis>.
- An Interpretable Joint Nonnegative Matrix Factorization-Based Point Cloud Distance Measure (with Amani R. Maina-Kilaas, Julianna Schalkwyk, Hina Ahmed, and Jamie Haddock), conference paper at the 57th Annual Conference on Information Science and Systems; see <https://arxiv.org/pdf/2207.05112v2.pdf>

## PRESENTATIONS

- Long Increasing Subsequences, Harvey Mudd Thesis Presentation Days; see minutes 12:20 to 25:30 of <https://tinyurl.com/hmc-senior-thesis-talk>.
- A New Basis for  $k$ -Local Class Functions, Pi Mu Epsilon Contributed Session on Research by Undergraduates at the 2023 Joint Math Meetings
- An Interpretable Joint Nonnegative Matrix Factorization-Based Point Cloud Distance Measure, poster at the Southern California Applied Mathematics Symposium, June 2022.

## AWARDS & HONORS

**Chancellor's Fellowship**, UC Berkeley

2023

**Alvin White Prize**, Harvey Mudd College

2023

*Presented to a student or students who have contributed greatly to the humanistic side of the Harvey Mudd College Mathematics Community.*

**Giovanni Borrelli Mathematics Fellowship**, Harvey Mudd College

2021 - 2022

*Conferred on one or two junior mathematics majors in recognition of the ability to complete high quality research independently or in tandem with a faculty advisor.*

**Courtney S. Coleman Prize**, Harvey Mudd College

2021

*Awarded to three rising juniors who excel in mathematics.*

## LEADERSHIP EXPERIENCE

**President, Women in Math**, Harvey Mudd College

Fall 2022 - Spring 2023

- Support women in mathematics and strengthen the mathematics community by fostering connections between underclassmen, upperclassmen, and alumni (as mentorship coordinator 21-22)
- Recruit new leadership members
- Host math department speakers and organize ushers for speaker events
- Organize social and networking events for women interested in math

**Sustainability Director**, Harvey Mudd College Student Government

Fall 2020 - Spring 2022

- Coordinated and supported teams of undergraduate volunteers on various projects focused on increasing campus sustainability

## TEACHING EXPERIENCE

**Tutor/Teaching Assistant**, Harvey Mudd College

Spring 2021 - Spring 2023

- Help students develop intuition and answer questions about Calculus, Linear Algebra, Differential Equations, Discrete Math, Abstract Algebra I, Harmonic Analysis on Finite Groups, Data Science, and Principles of Computer Science

**Grader**, Harvey Mudd College

Fall 2020 - Spring 2023

- Grade weekly or biweekly homework sets for Calculus, Linear Algebra, Abstract Algebra I, and Harmonic Analysis on Finite Groups

## SKILLS

Programming Languages: Python, MatLab, Macaulay2, Java, C++, R, Julia

Languages: English (fluent), German (fluent), Mandarin (proficient), Hebrew (proficient)