

# HARRY BENDEKGEY

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Google Scholar  $\diamond$  Github  $\diamond$  LinkedIn

## EDUCATION

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### Ph.D., Computer Science

University of California, Irvine.  
Advised by Erik Sudderth

*June 2025 (expected)*

*GPA: 4.0*

### B.A., Computer Science and Mathematics (Double Major)

Pomona College

*May 2019*

*GPA: 3.97*

## AREAS OF SPECIALIZATION

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- Optimization + Constrained Optimization
- Deep Generative Modeling
- Fairness + Interpretability in Deep Learning
- Variational Inference

## TEACHING

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### Instructor, University of California, Irvine

ICS 6N: Computational Linear Algebra

*Summer 2023 (10-Week Session)*

- I lectured, designed my own course materials and examinations, and graded a class of 21 students.
- This alternative to the math department's linear algebra course is required for students majoring in computer science or data science.

### Teaching Assistant, University of California, Irvine

CS 177: Applications of Probability in CS

*Fall 2020, Winter 2024, Fall 2024*

In addition to standard teaching assistant responsibilities, I designed exam content.

### Teaching Assistant, Pomona College Computer Science Department

- CS54: Discrete Math and Functional Programming (Head TA) *Spring 2019*
- CS105: Computer Systems *Fall 2018*
- CS52: Fundamentals of Computer Science (Head TA) *Spring 2017, Spring 2018*
- CS51: Introduction to Computer Science *Spring 2016, Fall 2016*

### Mentor and Grader, Pomona College Mathematics and Statistics Department

- MATH103: Combinatorial Mathematics *Spring 2017, Spring 2018, Spring 2019*
- MATH152: Statistical Theory *Fall 2018*
- MATH60: Linear Algebra *Fall 2018*

## PUBLICATIONS

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### Conference

1. *In Submission*: Fast inference in sparse time series.  
**H Bendekgey**, D Sujono, M Motamed, E Sudderth.
2. Unbiased learning of deep generative models with structured discrete representations.  
**H Bendekgey**, G Hope, E Sudderth. NeurIPS 2023
3. Scalable & Stable Surrogates for Flexible Classifiers with Fairness Constraints.  
**H Bendekgey**, E Sudderth. NeurIPS 2021

### In Journal Submission

1. Undergraduate data science education: Who has the microphone and what are they saying?  
M Dogucu, S Demirci, **H Bendekgey**, FZ Ricci, CM Medina. [ArXiv link]
2. Scaling study of diffusion in dynamic crowded spaces.  
**H Bendekgey**, G Huber, and D Yllanes. [ArXiv link]
3. David Paper 1
4. David Paper 2

### Workshop

1. Clustering Player Strategies from Variable-Length Game Logs in *Dominion*.  
**H Bendekgey**, AAAI Workshop on Knowledge Extraction from Games (KEG), 2019.

## PROFESSIONAL EXPERIENCE

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### Research Intern, Chan-Zuckerberg Biohub

*Summer 2019*

- I worked with the theory group on two projects touching biology, physics, and statistics:
- We explored the ability of (MC)<sup>3</sup> to explore the space of phylogenetic trees, and
- We discovered a new power law for modeling diffusion in crowded dynamic spaces.

### Engineering Intern, QuanticMind

*Summer 2017*

- I created an API for employees to access databases without requiring access credentials, and
- I led meetings with colleagues to generate common use cases to be addressed by the API.

## INVITED TALKS

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### Why We Use Reverse-Mode Autodiff (And the Time I Didn't)

*Feb 2024*

UC Irvine DataLab Seminar

### Unbiased Learning of Deep Generative Models with Discrete Representations

*Nov 2023*

Pomona College Computer Science Colloquium Series

## AWARDS AND HONORS

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### UC Irvine Awards

- Hasso Plattner Institute Fellowship *2021-2023*
- Enhanced Computer Science Department Excellence Fellowship *2019-2020*
- Dean's Award *2019*

### Pomona College Awards

- Paul B. Yale Computer Science Prize *2019*
- Phi Beta Kappa Award *2019*
- Phi Beta Kappa Member *2018*
- Kenneth Cooke Summer Research Fellowship *2018*
- Bruce Jay Levy Prize in Mathematics *2018*
- Llewellyn Bixby Mathematics Prize *2017*

## UC IRVINE DEPARTMENT SERVICE

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### Student Member of the AI Faculty Search Committee *2021-2023*

I was one of 4-6 Ph.D. students who interviewed faculty candidates with a focus on their research, their advising styles, and their interactions with graduate students.

### HPI@UCI Workshop Organizer *Apr 2024*

I coordinated talks and activities for 30 workshop attendees from UC Irvine and the Hasso Plattner Institute in Germany.

### HPI@UCI Reading Group Organizer *2021-2022*

I organized a cross-lab reading group of 15 student fellows across machine learning specializations for the 2021-2022 academic year.