Harry Bendekgey

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Education

Ph.D. Candidate, University of California, Irvine — Fall 2019-present
Advised by Erik Sudderth. Advanced to Candidacy Spring 2022. — GPA: 4.0
Relevant Coursework: Probabilistic Graphical Models,
Probabilistic Learning, Deep Generative Models, Stochastic Processes

B.A., Pomona College — Graduated Spring 2019
Computer Science and Mathematics (Double Major) — GPA: 3.97
Relevant Coursework: Combinatorial Optimization, Computational Biology,
Bayesian Statistics, Computational Statistics, Statistical Linear Models
Natural Language Processing, Topics in Topology and Geometry

Teaching Experience

Instructor of Record — Summer 2023
ICS 6N: Computational Linear Algebra — University of California, Irvine
For the 10-week summer session: developed all course materials, lectured, and graded

Teaching Assistant — Fall 2020
CS 177: Applications of Probability in CS — University of California, Irvine
In addition to standard TA duties (holding office hours and discussion sections, grading assignments) I designed both exams for this class section.

Guest Lecturer — Fall 2018
CS 151: Artificial Intelligence — Pomona College
MATH 154: Computational Statistics
Gave guest lectures to upper-division undergraduate elective courses on:
Artificial Intelligence: Monte Carlo Tree Search and the Multi-Armed Bandit Problem.
Computational Statistics: Markov Chain Monte Carlo for Metropolis-Hastings.

Teaching Assistant
Computer Science Department — Pomona College
- Discrete Math and Functional Programming (Head TA) — Spring 2019
- Computer Systems — Fall 2018
- Fundamentals of Computer Science (Head TA) — Spring 2017, Spring 2018
- Introduction to Computer Science — Spring 2016-Fall 2016

Mentor and Grader
Mathematics Department — Pomona College
- Combinatorial Mathematics — Spring 2017, Spring 2018, Spring 2019
- Linear Algebra — Fall 2018
- Statistical Theory — Fall 2018

Industry Experience

Intern — Summer 2019
Chan Zuckerberg Biohub — San Francisco
Work with the theory group on two projects touching biology, physics, and statistics:
- Investigating the ability of $(MC)^3$ to explore the space of phylogenetic trees, and
- Discovering a new power law for modeling diffusion in crowded dynamic spaces

Engineering Intern — Summer 2017
QuanticMind
Created an API for employees to access databases without requiring access credentials;
Led meetings with colleagues to generate common use cases to be addressed by API.

Publications

Unbiased learning of deep generative models with structured discrete representations.
H Bendekgey, G Hope, E Sudderth. NeurIPS 2023

Scaling Study of Diffusion in Dynamic Crowded Spaces.
H Bendekgey, G Huber, D Yllanes, L Yan. APS March Meeting 2022

Scalable & Stable Surrogates for Flexible Classifiers with Fairness Constraints.
H Bendekgey, E Sudderth. NeurIPS 2021

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

Programming Languages

Proficient with R, C, Python, Java, LaTeX;
Familiar with: SQL, C++, JavaScript.

UC Irvine Awards

Hasso Plattner Institute Fellowship 2021-2023
Provides 3 years of full Ph.D funding for work on adaptive, safe and human-centered artificial intelligence.

Enhanced Computer Science Department Excellence Fellowship 2019
Allows first-year Ph.D students to engage sooner and more deeply with research by dispensing with teaching assistant requirement.

Dean's Award 2019
Extra first-year grant for outstanding research potential.

Pomona College Awards

Paul B. Yale Computer Science Prize 2019
Awarded annually to an outstanding senior majoring in Computer Science.

Phi Beta Kappa Award 2019
Awarded to a senior for high quality of scholarship and promise of future distinction.

Kenneth Cooke Summer Research Fellowship 2018
Grant for summer research in an area of applied mathematics or statistics.

Bruce Jay Levy Prize in Mathematics 2018
Awarded annually to a student for excellence in the field of mathematics.

Llewellyn Bixby Mathematics Prize 2017
Awarded annually to a sophomore for excellence in the second year of mathematics.

National Awards

Phi Beta Kappa Member Elected Junior year, 2018
The oldest honor society in the country; at eligible schools, 2% of Juniors are elected.

National Merit Scholar 2015
College scholarship based on performance on the Practice SAT.

Caroline D. Bradley Scholar 2011-2015
Merit-based, four-year high school scholarship granted to 11 students nationally.