

## Henry Bendekgey

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<b>Education</b>	<b>University of California, Irvine</b> Fall 2019-present Pursuing a Ph.D. in Computer Science, studying statistical machine learning.
	<b>Pomona College</b> Spring 2019 Bachelor of Arts in 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
<b>Research Experience</b>	<b>Intern</b> Summer 2019 Chan Zuckerberg Biohub San Francisco Worked with the theory group on two projects touching biology, physics, and statistics: <ul style="list-style-type: none"><li>◦ Investigating the ability of (MC)<sup>3</sup> to explore the space of phylogenetic trees, and</li><li>◦ Discovering a new power law for modeling diffusion in crowded dynamic spaces</li></ul>
	<b>Research Fellow</b> Fall 2018 Computer Science Department Pomona College Designed a novel approach for understanding the landscape of personas across games; Scraped and cleaned data from online <i>Dominion</i> logs to visualize player strategies.
	<b>Research Fellow</b> Summer 2018 Kenneth Cooke Research Fellowship Pomona College Researched the mathematical models underlying state-of-the-art election forecasting; Implemented adjustable forecasts for the 2018 midterm election based on these models.
	<b>Guest Lecturer</b> 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.
<b>Teaching Experience</b>	<b>Teaching Assistant</b> Computer Science Department Pomona College <ul style="list-style-type: none"><li>◦ Discrete Math and Functional Programming (Head TA) Fall 2019</li><li>◦ Computer Systems Fall 2018</li><li>◦ Fundamentals of Computer Science (Head TA) Spring 2017-Spring 2018</li><li>◦ Introduction to Computer Science Spring 2016-Fall 2016</li></ul>
	<b>Mentor and Grader</b> Mathematics Department Pomona College <ul style="list-style-type: none"><li>◦ Linear Algebra Fall 2018</li><li>◦ Statistical Theory Fall 2018</li><li>◦ Combinatorial Mathematics Spring 2017-Spring 2018</li></ul>
	<b>Engineering Intern</b> 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.
<b>Publications</b>	Clustering Player Strategies from Variable-Length Game Logs in <i>Dominion</i> . <b>H Bendekgey</b> , AAAI Workshop on Knowledge Extraction from Games (KEG), 2019.

Consistency and Reproducibility in U.S. House of Representatives Forecasts.  
**H Bendekgey**, arXiv preprint arXiv:1811.12466, 2018

*In preparation:* Diffusion in Crowded Dynamic Spaces. **H Bendekgey**, G Huber, D Yllanes, L Yan.

**Programming Languages** Proficient with R, C, Python, Java,  $\text{\LaTeX}$ ;  
Familiar with: SQL, C++, Scala, JavaScript.

**Projects** **Midterms Forecasting Website**  
github.com/hbendekgey/midterms-website  
Codebase for a fully interactive website to understand the differences in popular election forecasting methods, and to see how changing assumptions or parameters affects the final forecast.

**Spotify Data Science Workshop**  
github.com/hbendekgey/Spotify-Workshop  
Detailed step-by-step instructions for how to use Spotify's API to get audio features of one's own music library, and then practice common machine learning techniques in Python on that data.

**Cellular Automata**  
varsn Crafts.com/#/crafts/react/Cellular%20Automaton  
Implementation of a generic cellular automaton with modifiable rule space, to understand how emergent properties can manifest in seemingly simple systems.

**UC Irvine Awards** **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.