

William Hartog
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Education

STANFORD UNIVERSITY

Ph.D. Candidate in Statistics. Advised by Lihua Lei.

Stanford, CA
June 2026

HARVARD UNIVERSITY

A.B. Cum Laude with High Honors in Mathematics and Statistics with a Secondary in Music.

Cambridge, MA
May 2021

Research Experience

STANFORD UNIVERSITY

Research with Advisor Lihua Lei

Stanford, CA
September 2022 – Present

- Utilized an average e-value local test to improve multiple testing procedures with e-values.
- Developed algorithms to compute the graphical approach for a large class of graphs.

Research with Tselil Schramm

September 2022 – Present

- Investigating statistical and probabilistic properties of Geometric Random Graphs.
- Considering the question of whether the random walk on the RGG model displays cutoff.

HARVARD BUSINESS SCHOOL

Research Assistant

PRIMO Research Fellow

Boston, MA
August 2020 – September 2021
June – August 2020

- Participated in competitive HBS undergraduate research program, with a total of seventeen fellows
- Worked as part of program and continues to work under supervision of Professor Josh Lerner and colleagues on an upcoming research paper. Performed data visualization on large earnings calls and patents datasets, developed procedure for correlation-based clustering on two-word bigrams.

Talks and Posters

CODE@MIT

Experimentation and Causal Inference

MIT, November 2023
Stanford University, June 2023

- **Multiple A/B Testing with always-valid e-values:** Joint work with Lihua Lei; presented algorithms to compute the graphical approach for FWER control with e-values using a weighted average local test.

Statistics Department Retreat

Stanford University, May 2023

- **Once Upon a Stream: Mining for Significance:** Presented on an instance of the discussion of multiple testing and selective inference in the mainstream, testing for cheating in a 2020 Minecraft speedrun.

Teaching Experience

STANFORD UNIVERSITY

PRIMARY INSTRUCTOR

Stanford, CA

PRIMARY INSTRUCTOR

Stats 100: Mathematics of Sports

April – June 2023
January – March 2024

- Designed and taught undergraduate-level course in sports statistics, covering a variety of principles and methods applicable in sports analytics, including linear and logistic regression, shrinkage, Markov and Poisson models.

- Created slides and R examples from variety of sources and created homeworks and homework templates for the R language.
- Guided students through final project and curated website for display of projects.

Stats 217: Stochastic Processes I

June – August 2023

- Prepared and taught masters-level introductory course in stochastic processes, including discrete- and continuous-time Markov chains, branching processes, and Poisson processes.

TEACHING ASSISTANT

Stats 116: Introduction to Probability

September – December 2022

Stats 216V: Introduction to Statistical Learning

June – August 2022

Stats 100: Mathematics of Sports

January – March 2022

Stats 202: Data Mining and Analysis

September – December 2022

HARVARD UNIVERSITY

Cambridge, MA

TEACHING ASSISTANT

Math S1a: Calculus I

June – August 2021

Math 154: Probability Theory

January – May 2021

Stat 110: Introduction to Probability

September – December 2020

Math 101: Sets, Groups and Topology

September – December 2019

Math S1ab: Calculus I and II

June – August 2019

Math 21b: Linear Algebra

September – December 2018

Service and Activities

ACADEMIC REVIEW WORK

- Annals of Statistics, Biometrical Journal

STANFORD BIOMEDICAL DATA SCIENCE

Stanford, CA

Research Mentor

January – March 2023

- Acted as a graduate mentor for a local community college student majoring in data science.
- Provided advice and guidance for statistics coursework and learning statistical and coding concepts.

HARVARD CLUB ULTIMATE FRISBEE

Cambridge, MA

Team Member, Team Captain

September 2017 – May 2021

- Trained and competed as member and captain of Harvard's Division I Ultimate Frisbee team.
- Traveled to over six competitive weekend tournaments each season.
- Coordinated with team coaches on strategy, planned event logistics and general team activities.

Skills and Interests

Technical: Experienced with Python, R. Familiar with OCaml, Mathematica, Microsoft Excel

Language: Conversational Spanish

Interests: Ultimate Frisbee, French Horn, Crosswords