Henry Smith

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EDUCATION

Stanford University, Palo Alto, CA   2023 –

Ph.D., Statistics

Research Interests: statistical machine learning, optimization

Yale University, New Haven, CT   2018 – 2022

B.S., Statistics & Data Science, Mathematics

summa cum laude

Thesis: "Implicit Regularization in Deep Learning: The Kernel and Rich Regimes"

Advisor: Harrison Zhou

AWARDS & HONORS

Graduate Research Fellowship | *National Science Foundation (NSF)* | $147,000	Sep 2023
EDGE (Enhancing Diversity in Graduate Education) Fellowship | *Stanford University* | $12,800	Sep 2023
Outstanding Senior Thesis Award in Statistics & Data Science[1]| *Yale University*	May 2022
Emerson Tuttle Cup[2]| *Yale University*	May 2022
Phi Beta Kappa | *Yale University*	Feb 2022
Research Experience for Undergraduates (REU) | *National Science Foundation (NSF)* | $5,000	Jun 2021
Google Summer of Code Fellowship | *Google* | $6,000	May 2020
Richter Summer Fellowship | *Yale University* | $1,000	May 2020

RESEARCH EXPERIENCE

Research Assistant (full-time)   Oct 2022 –

University of Cambridge, Department of Computer Science & Technology   *Cambridge, UK*

Advisor: Amanda Prorok

- Formalize and implement machine learning algorithms that enable aerial drones to fly in close proximity of one another (ex. for search and rescue tasks); particular focus on geometric deep learning models

Student Research Assistant   Jun 2021 – Jun 2023

Cornell University, Department of Mathematics   *Ithaca, NY*

Advisors: Alex Townsend, Nicolas Boullé

- Developed mathematically interpretable machine learning models for linear/nonlinear partial differential equations

Student Research Assistant   May 2020 – Sep 2020

University of California, Los Angeles, Department of Communication   *Los Angeles, CA*

Advisor: Jungseock Joo

- Modeled how U.S. politicians appeal to demographic subgroups of voters; employed machine learning and statistics

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[1]One of two graduating seniors selected to receive the award by the Statistics & Data Science department faculty

[2]"Presented annually at Commencement to the Davenport College senior most distinguished for scholastic attainments"; there were approximately 130 students in the graduating class

Teaching

Teaching Assistant:

S&DS 365/665: Intermediate Machine Learning | *Yale University*   Spring 2022

S&DS 262/562: Computational Tools for Data Science | *Yale University*   Spring 2021

S&DS 100/500: Introduction to Statistics | *Yale University*   Fall 2019

Publications

[1] **H. Smith**, A. Shankar, J. Gielis, J. Blumenkamp, A. Prorok, "SO(2)-Equivariant Downwash Models for Close Proximity Flight", 2023. [arXiv]

Technical Skills

Languages: Python, R, C, MATLAB, SQL
Libraries: PyTorch, TensorFlow