Henry Smith

smithhd@stanford.edu | linkedin.com/in/henry-smith1 | github.com/smithhenryd

Education

Stanford University, Palo Alto, CA — Sep 2023 – Present
Ph.D., Statistics
Research Interests: statistical machine learning, geometric deep learning, optimization

Yale University, New Haven, CT — May 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

Research Experience

Research Assistant — Oct 2022 – present
University of Cambridge, Department of Computer Science & Technology — *Cambridge, UK*
Advisor: Amanda Prorok

- Formalize and implement geometry-aware deep learning models (ex. equivariant graph neural networks) that enable close-proximity flight for aerial drones

Student Research Assistant — Jun 2021 – Jun 2023
Cornell University, Department of Mathematics — *Ithaca, NY*
Advisors: Alex Townsend, Nicolas Boullé

- Develop data-driven, mathematically interpretable models for linear and nonlinear partial differential equations

Teaching Experience

S&DS 365: Intermediate Machine Learning | *Yale University*	Spring 2022
S&DS 262: Computational Tools for Data Science | *Yale University*	Spring 2021
S&DS 103: Introduction to Statistics | *Yale University*	Fall 2019

Publications

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

[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"

Technical Skills

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