J. BLAKE BULLWINKEL

jbullwinkel@fas.harvard.edu | blakebullwinkel.com | Cambridge, MA | 917-328-1377

EDUCATION

Harvard University, Cambridge, MA $\hfill$ Expected June 2022
M.S. in Data Science. GPA 4.0/4.0
Relevant coursework: Data Science I & II, Machine Learning, Artificial Intelligence, Systems Development.

Williams College, Williamstown, MA $\hfill$ June 2020
B.A. in Mathematics and Chinese. GPA 3.83/4.0 (*cum laude*)

University of Oxford, Oxford, UK $\hfill$ June 2019
Attended as a visiting student as part of the selective, year-long Williams-Exeter Program at Oxford.

UWCSEA (East Campus), Singapore $\hfill$ June 2016
IB Diploma. Highest grade (7) in HL math, physics, chemistry, Chinese. Class of '16 Graduation Student Speaker.

PROFESSIONAL EXPERIENCE

Marble, *Co-Founder* $\hfill$ Summer 2020 to Present
• Developing an eco-social app that uses ML and NLP to estimate carbon footprint from grocery purchases.
• Accepted into the 2021 Harvard i-lab Spring Venture Program and leading a team of 3 (getmarble.app).

Institute for Human and Machine Cognition, *Data Science Intern* $\hfill$ Jan 2020
• Used Python and PostgreSQL for cleaning, management and visualization of flight simulation data.
• Used hypothesis testing to justify correlations between physiological indicators in pilots and flight performance.

Zola Electric, *Digital Platforms Intern* $\hfill$ Summer 2019
• Conducted software and sales model market research and presented novel findings to a global team of engineers and product managers aimed at providing more competitive solar energy access solutions to sub-Saharan Africa.
• Queried time series data to identify transaction delays within Zola's software platform using MySQL.

TECHNICAL PROJECTS

Wildfire Risk Prediction & Response Optimization, Cambridge, MA $\hfill$ Dec 2020
• Trained tree-based classification models on historical wildfire and weather data to predict wildfire risk in California.
• Leveraged MIP to determine the optimal assignment of limited firefighters across the state, based on total cost.

Predicting the Outcome of the 2020 Election, Cambridge, MA $\hfill$ Dec 2020
• Tuned k-NN and ridge-regularized logistic regression models using cross-validation to predict the 2020 election.
• Evaluated model fairness with FPR and analyzed possible COVID effects by using unemployment as a proxy.

DreamDiff Python Package, Cambridge, MA $\hfill$ Dec 2020
• Led a team of three to develop a Python package that implements forward-mode automatic differentiation.
• Added extensions for root-finding, optimization by gradient descent, quadratic splines, and visualization methods.

LEADERSHIP EXPERIENCE

Exeter College Boat Club, Oxford, UK, *Men's Captain* $\hfill$ Nov 2018 to June 2019
• Elected to lead the Exeter College Boat Club as the men's rowing captain during year abroad at Oxford.

Williams College, Williamstown, MA, *Chinese Teaching Assistant* $\hfill$ Sept 2017 to May 2020
• Selected by Chinese department to act as a salaried assistant to professors through 1:1 tutoring sessions.

HONORS AND AWARDS

PepsiCo Data Science Challenge grand prize winner among 250+ contest participants $\hfill$ 2020
Goldberg Prize in Mathematics for the best mathematics colloquium (department-wide senior prize) $\hfill$ 2020
Linen Prize in Chinese for achieving distinction in Chinese (department-wide senior prize) $\hfill$ 2020
Carolyn Korthals Altes Scholarship for academics and potential to contribute to society $\hfill$ 2019
Putnam Competition (ranked 627/4,229 among undergrads specializing in mathematics) $\hfill$ 2019

SKILLS AND INTERESTS

Technical	Python (NumPy, pandas, scikit-learn, TensorFlow, Keras), R, SQL, Javascript, React, HTML/CSS
Language	Working proficiency in Chinese (Mandarin)
Interests	Rowing, Photography, Writing (Medium blog), Rubik's Cube Solving (WCA profile)