

J. BLAKE BULLWINKEL

jbullwinkel@fas.harvard.edu | blakebullwinkel.com | Seattle, WA | 917-328-1377

EDUCATION

Harvard University , Cambridge, MA M.S. in Data Science. GPA 3.95/4.0.	June 2022
Williams College , Williamstown, MA B.A. in Mathematics, Chinese. GPA 3.83/4.0 (<i>cum laude</i>).	June 2020
University of Oxford , Oxford, UK Attended as a visiting student as part of the selective, year-long Williams-Exeter Program at Oxford (WEPO).	June 2019

PROFESSIONAL EXPERIENCE

Microsoft , Redmond, WA <i>Data Scientist</i> • Joining as a Data Scientist in the Cloud and AI group.	Starting August 2022
Harvard University , Cambridge, MA <i>Teaching Fellow</i> • Selected to assist professors in teaching of CS 109b: Advanced Topics in Data Science, a course focused on non-linear statistical methods and deep learning models, including CNNs, RNNs, LSTMs, autoencoders, and GANs.	Spring 2022
PepsiCo R&D , Valhalla, NY <i>Data Science & Analytics Intern</i> • Developed Python package for anomaly detection of water usage time series using statistical and ML methods. • Trained time series models (ARIMA, LSTM, FB Prophet) to forecast future water efficiency of 17 beverage plants. • Developed an automated data pipeline with actionable insights in Power BI that has been adopted nationwide.	Summer 2021
Marble <i>Co-Founder</i> • Leading the development of a mobile app that provides carbon footprint estimates for 150,000+ grocery products. • Team of five accepted into the 2021 Harvard i-lab Venture Program for three consecutive semesters (website).	Summer 2020–Present

SELECTED PROJECTS

Generative Adversarial Network Methods for Solving Differential Equations • Researched and developed methods to improve the training stability of DEQGAN, a generative adversarial network for solving differential equations, and developed novel transfer learning algorithms (master's thesis). • Paper accepted to the AI for Science workshop at ICML 2022.	Feb 2021–June 2022
Harvard IQSS-Microsoft Collaboration on Differential Privacy • Worked with Microsoft data scientists to research the fairness impact of differentially private synthetic data in ML. • Paper accepted to the Theory and Practice of Differential Privacy (TPDP) workshop at ICML 2022.	Sept 2021–June 2022
DreamDiff Python Package • Led a team of three to develop a Python package that implements forward-mode automatic differentiation (PyPI). • Added extensions for root-finding, optimization by gradient descent, quadratic splines, and visualization methods.	Dec 2020

HONORS AND AWARDS

Certificate of Distinction in Teaching based on student ratings (mean 4.67/5.0 for CS109b)	2022
IACS Student Scholarship to support data science thesis research (\$20,000 award)	2021
Goldberg Prize in Mathematics for the best mathematics colloquium (department-wide senior prize)	2020
Linen Prize in Chinese for achieving distinction in Chinese (department-wide senior prize)	2020
Carolyn Korthals Altes Scholarship for academics and potential to contribute to society	2019

SKILLS AND INTERESTS

Programming	Python (NumPy, pandas, sklearn, statsmodels, TensorFlow, PyTorch), R, SQL, HTML/CSS
Methods	Statistical machine learning, time-series analysis, stochastic methods, deep learning
Language	Working proficiency in written and spoken Chinese (Mandarin)
Interests	Rowing, photography, writing (Medium blog), Rubik's cube solving (WCA profile)