Angela Zhao

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EDUCATION

JOHNS HOPKINS UNIVERSITY

PhD in Biostatistics — In progress

- Gertrude M. Cox Scholarship from the American Statistics Association (Honorable Mention, JSM 2024)
- Some coursework and research carried over from the ScM may allow me to graduate earlier.

Certificate in Health Finance and Management — December 2025 (expected)

ScM in Biostatistics — May 2024

- ScM Student Rep; Curriculum Committee; Public Health School Re-accreditation Student Rep; cGPA: 3.93/4.0

MCGILL UNIVERSITY

BSc in Joint Honors Computer Science, Biology, Minor in Mathematics — October 2022

- Dean's Honor List; Dean's Multidisciplinary Research List; First Class Honors; cGPA: 3.97/4.0

SUMMARY *For a comprehensive CV, please visit ang-zhao.github.io/angzhao.github.io/*

4 years research experience	2 peer-reviewed articles	5 leadership positions*
4 years teaching experience*	8 talks and posters*	8 awards and honors*

EXPERIENCE

Emerald Advisors, LLC | *Life Sciences Research Analyst Intern* — May 2024 - Aug. 2024

- Assisted senior analysts in covering 20+ biotech/therapeutics companies at a long-only firm managing ∼$5B of AUM.
- Evaluated scientific literature, clinical trial data, and business filings as part of the due diligence process for new ideas.
- Contributed to the BUY decision on LBTH; stock went up 50+% and made a positive 8bps impact to the portfolio.
- Conducted due diligence for the IPO of TEM, including constructing comps tables and reviewing SEC-1 filings.

Johns Hopkins University | *Research Assistant for Dr. Ciprian Crainiceanu* — Sep. 2022 - Present

- Helped develop inference procedures for functional cox models that consider the inherent correlation of timeseries data.
- Demonstrated that wearable device metrics improve the performance of traditional survival models by up to 10%.
- Produced robust R pipelines for analyzing high-dimensional data on a cluster computer ($N = 500,000$, $p > 1000$).
- This work resulted in 1 peer-reviewed paper *Springer Journal of Neurology* and 3 papers under revision.

Johns Hopkins University | *Research Assistant for Dr. Brian Caffo* — Jul. 2023 - May 2024

- Comprehensively compared stochastic timeseries models to capture the complex dynamics of real/simulated fMRI data.
- Leveraged the Pytorch, Tensorflow, and Keras libraries in Python to tune and test RNNs, transformers, and AR models.
- Proposed that the potency of transformers suggest a form of neural context that challenges standard fMRI assumptions.
- This work resulted in 1 peer-reviewed review article in *Annual Reviews of Statistics* and 1 paper under revision.

McGill University | *Research Assistant for Dr. Jackie Vogel* — Jan. 2020 - Aug. 2022

- Developed shape analysis pipelines in Java and Python to identify droplet-like behaviours in proteins from video data.
- Leveraged ML for artifact removal and signal processing; weighted-mean/Gaussian approaches for subpixel positioning.
- Contributed to single-cell analysis software for super-resolution image data that lead to 8+ talks, posters, and abstracts.

TECHNICAL SKILLS AND COURSEWORK

Languages: Python, R, Java, C, Bash, SAS

Software: PyTorch/Tensorflow, Git/GitHub, dashboarding/data visualization, image processing, Factset, yfinance

Cloud/Databases: AWS, cluster computing, SQL, REDCap, large Biobank data processing

Theory: Deep learning, regression, survival analysis, time-series/functional data analysis

Highlighted Coursework

<u>Graduate:</u> 4 terms <u>each</u> of Probability and Statistics, Machine Learning, Survival Analysis, Multi-Level Modelling, Causal Inference, Statistical Computing, Data Science

<u>Undergraduate:</u> Object- Oriented Programming, Algorithms and Data Structures, Artificial Intelligence, Discrete Mathematics, Real Analysis, Multivariate Calculus, Linear Algebra, ODEs

SELECT PUBLICATIONS

*equal contribution

1. Lindquist M A, Smith B B, Kannan A, **Zhao A**, Caffo B (2025). Measuring the Functioning Human Brain. *Annual Review of Statistics and its Application,*. https://doi.org/10.1146/annuarev-statistics-040522-100329

2. **Zhao A**, Cui E, Leroux A, Lindquist M, Crainiceanu C (2023). Evaluating the prediction performance of objective physical activity measures for incident Parkinson's disease in the UK Biobank. *Journal of Neurology,* 270(12), 5913–5923. https://doi.org/10.1007/s00415-023-11939-0

3. Cui E*, **Zhao A***, Crainiceanu C, Leroux A. Functional and Distributional Cox Models for UK Biobank Physical Activity Analysis *(submitted to Biostatistics)*.

4. **Zhao A**, Lindquist M, Caffo B. Comparing stochastic model performance with applications to fMRI data *(submitted to NeurIPS)*.