Jonathan Ma

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EDUCATION

Johns Hopkins University — Baltimore, MD
Masters of Science in Engineering-Applied Math and Statistics — Expected Aug 2026
Relevant Coursework: Bayesian Statistics, Nonlinear Optimization, Time Series Analysis

Rutgers University — Camden, NJ
Bachelor of Science, Finance and Economics, Statistics Minor — May 2025
GPA: 3.929 / 4.0
Honors: Economics Department Award, Summa Cum Laude, Omicron Delta Epsilon
Relevant Coursework: Econometrics, Applied Data Mining, Data Visualization

WORK & LEADERSHIP EXPERIENCE

Rutgers University — Camden, NJ
Research Assistant — Oct 2023 – July 2025

- Utilized Python to scrape 7,500 earnings call and conference transcripts from Capital IQ, then cleaned and processed the data in R to prepare it for sentiment analysis. Leveraged GPT chain-of-thought prompting to analyze company financials for further insights, and manually validated all results to ensure accuracy.
- Developed a neural network–based financial forecasting pipeline leveraging N-BEATS and N-HiTS architectures, performing feature engineering, hyperparameter optimization, and rolling-window validation; achieved up to 18–25% lower RMSE than baseline ARIMA/LSTM benchmarks and deployed results in an interactive dashboard for real-time visualization and interpretability.

RUC Student Finance Association — Camden, NJ
Vice President & Co-Founder — Oct 2022 – May 2025

- Advised club president regarding strategic direction and developed semester goals resulting in 20+ successful networking, federal tour, and club events and a 400% increase in club membership.
- Organized and managed the organizations database complete with member analytics and to-do lists to keep the rest of leadership up to date on potential leadership candidates and attendance. Passed on the Google Site with complete documentation, and built a handbook called “The Big Book of SFA“.

PUBLICATIONS

Bayesian Hierarchical Modeling and Clustering of Malignant Cancer Diagnoses — 2025
Argumentation Based Systems Journal

- Developed a Bayesian hierarchical modeling framework to quantify patient- and region-level determinants of late-stage cancer diagnosis, emphasizing uncertainty quantification and interpretability.
- Implemented full Bayesian inference workflows including prior design, posterior sampling, and posterior predictive validation for rigorous model assessment.
- Implemented a mixture model to identify heterogeneous diagnostic risk profiles and translated statistical findings into actionable analytical insights.

Obesity of the Youth: Health Disparity and Income Inequality — 2025
Journal of Interdisciplinary Data Science and Machine Learning Applications

- Applied a mixed effects logistic model through a PRECEDE-PROCEED framework to investigate health inequalities and disparities across different demographic groups using large-scale survey data from NSCH. Interpreted model results through the lenses of concentration inequalities to inform policy recommendations aimed at improving equitable access to healthcare.
- Engineered and analyzed large-scale datasets using SQL, building automated data preparation pipelines with experimental logging for newly ingested data, including modules for nonparametric methods including bootstrap inference, kernel density estimation, and rank-based testing to ensure statistically reliable and reproducible results.