

Lewis L. Zhu

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Education

Duke University, Trinity College

Durham, NC

Bachelor of Science in Mathematics and Economics (Finance Concentration), Minor in Music

May 2025

- **GPA:** 3.96/4.00
- **Honors:** Woodman Scholar, Undergraduate Research Support Grant Recipient, Dean's List with Distinction
- **Relevant Coursework:** Mathematical Finance, Financial Derivatives, Algorithmic Trading, Asset Pricing and Risk Management, Probability, Linear Algebra, Multivariable Calculus, Abstract Algebra, Real Analysis, Python for Mathematics, Micro and Macroeconomics, Econometrics, PhD-Level Econometrics (ongoing)

Work Experience

Alta Fox Capital Management

Fort Worth, TX

Quantitative Developer Intern

June 2024 – August 2024

- Developed a systematic earnings event-driven trading strategy in Python using scikit-learn, leveraging alternative data sources to execute optimally timed and sized trades
- Engineered factor models and ranking systems using fundamental data for a 7000-ticker universe to generate monthly-rebalanced long, short, and long/short baskets
- Utilized and extended the mathematical framework of mean-variance optimization to provide dynamic optimal portfolio position weight recommendations tailored to the fund's specific leverage requirements
- Built Grafana dashboards to visualize recommendations, enabling research team to make data-driven decisions

Data Scientist Intern

June 2023 – August 2023

- Developed an algorithm in R based on multivariable fixed effects regressions to determine a portfolio net exposure recommendation, adding quantitative rigor to the fund's market timing
- Built a Power BI dashboard to present automatically updated algorithm outputs for weekly board meetings to assist research team in making more informed timing and positioning decisions
- Managed and cleaned 30+ datasets of historical stock prices and economic indicators, as well as 2.5M+ rows of data in PostgreSQL for use in analysis and algorithm development

Duke Economic Analytics Laboratory

Durham, NC

Woodman Research Assistant

December 2022 – Present

- Performed econometric analysis on datasets of 20,000+ survey respondents and 1,000+ variables in STATA to study COVID-19 effects on mental health and productivity with Professors Rachel Kranton and Duncan Thomas
- Constructed measures for mental health (e.g. work/family conflict, CESD scores) and productivity (e.g. hours worked, reported subjective error) and controls for household demographics to ensure robust findings
- Processed and cleaned 6 waves of raw survey data generated by survey software to ensure usability

Economics Department, Duke University

Durham, NC

Undergraduate Teaching Assistant

August 2022 – Present

- Plan and lead weekly 25-student discussions of exemplary questions to supplement course material for ECON 201: Intermediate Microeconomics and ECON 204: Econometrics
- Teach STATA essentials and real-world applications to Econometrics students in 6 TA sessions per semester

Leadership and Community Involvement

Duke Symphony Orchestra

Durham, NC

Concertmaster, First Violinist

August 2021 – Present

- Lead 107-person orchestra, collaborating with conductor to ensure precision and thoughtful artistic interpretation
- Rehearse semiweekly and perform a range of challenging repertoire twice a semester to the Duke community and Durham public to broaden the accessibility of classical music from diverse composers

Kidznotes

Durham, NC

Chamber Musician Volunteer and Teaching Artist

August 2022 – December 2022

- Mentored and performed for underserved K-12 students in a free after-school music program to promote musical interest and education, following the El Sistema model
- Led and collaborated with fellow musicians in semiweekly chamber music workshops

Skills and Interests

Skills: Python, R, SQL, STATA, Grafana, Microsoft Power BI, LaTeX, Microsoft Office, Mandarin Chinese (fluent)

Interests: Playing violin, Duke Basketball, Liverpool FC, collecting vinyl records, playing badminton