Edward Zhang

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EDUCATION

DUKE UNIVERSITY — **Durham, NC**
B.S. in Mathematics
B.S. in Computer Science — GPA: N/A | SAT: 1570
Minor: Finance | **Coursework:** *In Progress:* Probability, Practical Financial Markets, Data Science

CORNELL UNIVERSITY — **Ithaca, NY**
Candidate for B.A. in Mathematics
Intended Minors: Computer Science, Operations Research & Management Science — GPA: 4.155
Coursework: Multivariable Calculus, Linear Algebra, OOP and Data Structures, Micro/Macroeconomics

PROFESSIONAL EXPERIENCE

CATERPILLAR, INC. — **Peoria, IL**
Data Science Intern – Global Finance Services Division — May 2023 – August 2023

- Worked on feature engineering and clustering for in-house invoice classification model to reduce timeframe by 50%
- Forecasted incoming supplier volume using GARCH model for more efficient contract turnaround time year-round
- Utilized contracting and supplier data from two years to create new reporting dashboards to be 80% more concise

DYAD (DYADSTABLE.COM) — **San Francisco, CA**
Quantitative Research Intern — August 2022 – December 2022

- Utilized Monte Carlo methods (simulated annealing) to validate algorithms for $DYAD, a cryptocurrency pegged to USD
- Constructed valuation models using Ethereum volatility to forecast DYAD NFT prices for 10+ VC firms and investors
- Developed simple user interface and Smart Contracts, helping protocol to achieve $100k TVL with minimal gas fees

JANE STREET CAPITAL — **New York City, NY**
Student – Academy of Mathematics and Programming — July 2022 – August 2022

- Selected from 300+ applicants; took classes in computer science, number theory, and probability & statistics
- Utilized PID controller to create an algorithmic trading bot to participate in the AMP Electronic Trading Competition
- Created Wordle solver using Shannon Entropy concepts with an average of 3.63 guesses and <1% failure rate

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN — **Champaign, IL**
Financial Engineering Research Intern — June 2021 – September 2021

- Produced 4 case studies on significant financial events including the Barings Bank collapse and Louisiana Purchase
- Utilized Longstaff-Schwartz method and least-squares Monte Carlo simulation to derive underlying asset price paths
- Implemented Newton-Raphson method to estimate asset implied volatility in conjunction with Black-Scholes model

LEADERSHIP/PROJECT EXPERIENCE

SINGULARITY CAPITAL — **Naperville, IL**
Quantitative Researcher — January 2023 – August 2023

- Worked on proprietary back-testing and portfolio analytics dashboard in React to view and test trading strategies
- Designed cryptocurrency triangle arbitrage strategy using Kalman filter identification in Binance exchange data
- Trained hidden Markov Model for equity trading algorithm utilizing multiple factor models for economic regime change

CORNELL TRADING COMPETITION — **New York City, NY**
Winner – 2022, 5th place – 2023 — October 2022, October 2023

- Implemented delta-hedging options strategy to win the 2022 Cornell Trading Competition against 200 competitors
- Used GARCH Model for high-frequency trading bot in cryptocurrency case, placing 5th in the 2023 Competition

SKILLS & INTERESTS

Languages/Tools: *Proficient:* Java, R, Python, SQL, Pandas; *Introductory:* C++, OCaml, Vyper, Solidity, Kotlin, React
Applications: Solidworks, Autodesk Inventor, MS Office, Power BI, MS Azure, AWS, Adobe CC, Android Studio
Interests: Chess, Formula One, Premier League, Satirical Films, Graphic Design, Table Tennis, Golf, Fitness