Daniel Ma

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EDUCATION

Brown University *Expected 2026*

B.S. Applied Mathematics-Computer Science **GPA:** *4.0/4.0*

Relevant Coursework: Abstract Algebra, Applied PDEs, Monte Carlo Simulation, Stochastic Calculus, Data Structures, Algorithms

Activities: Hack@Brown, Brown Investment Group, Quantitative Trading at Brown, Brown Poker, Brown Acapella

WORK EXPERIENCE

Calamos Investments *June 2024-August 2024*

Data Science Intern Chicago, IL

- Examined structured protection models for **1000+** underlying assets to assist in launching newly listed **CPSA ETF**
- Used **Python/pandas** to analyze and optimize post-mortem block option trades across **237** CWM client portfolios
- Provided automated weekly macro and risk reports on main Calamos funds to assist **14** wealth advisors firmwide

DYAD (dyadstable.xyz) *July 2022–Present*

Founding Researcher San Francisco, CA

- Formulated novel stochastic model for the DYAD stablecoin, the **first** capital efficient overcollateralized flywheel
- Presented to Venture Capitalist firms (e.g., a16z, True Ventures, Road Capital) raising **$10m+** in Series A funding
- Led organization for initial coin offering, garnering **$5m+** Total Value Locked within one year of public launch

Quiver Trade (quiver.trade) *June 2023–August 2023*

Trading Intern Remote

- Proposed new risk coefficient (q) to personalize Myerson's work on efficient bilateral trading mechanisms
- Developed proofs using PDE-constrained optimization to reinvent the mechanism formula for **23,000 investors**
- Provided **30% growth** in batch auction market liquidity, maintaining ex-post Bayesian incentive compatibility

The University of Chicago, Booth School of Business *December 2021–March 2023*

Research Assistant Chicago, IL

- Constructed methods to analyze tokenomics lending mechanisms across **100+** scanned stablecoins on Ration CSV
- Produced **98.6%** accuracy of liquidity index and rate data verification via ridge regression models in **MATLAB**
- Received citations in working finance projects and **submitted** to Journal of Political Economy for publication

PROJECTS/PROGRAMS

Brown Investment Group, Quantitative Trading Division | *Python, kdb+, SciPy* *September 2023-Present*

Lead Analyst Providence, RI

- Developed novel back-testing and predictive portfolio analytics methods with SciPy to **manage $25,000+ AUM**
- Examined early exercise boundaries for DJX call options using least-squares Monte Carlo simulations in **Python**
- Refined systematic models with HMMs and EM maximization algorithms, yielding a simulated **CAGR of ~11%**

Citadel Securities *April 2024*

Trading Invitational Fellow New York, NY

- Placed **5th** out of 100 invitees on Citadel's simulated API trading interface in day-long market making competition

AWARDS

United States of America Junior Mathematical Olympiad (USAJMO) Qualifier

- One of **250 selected out of 300,000+** to compete in 2-day, 9-hour contest consisting of 6 proof-based problems

6x AIME Qualifier

- Distinguished Honor Roll (Top 1%) for AMC 12 2020 & 2021, **145.5/150** AMC 10A 2021, **10/15** AIME II 2021

SKILLS

Software: C/C++, Python, Java, C#, Javascript, SQL, R, MATLAB, LaTeX, Lisp, Lean4, Solidity, Vyper, Power BI

Tools & Libraries: NumPy, SciPy, Git, React, pandas, Seaborn, Jupyter Notebook, PyTorch, TensorFlow