Jack Mansfield

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EDUCATION

The University of Chicago — **Chicago, IL**
Master of Science in Financial Mathematics (GPA: 3.54) — **Expected December 2024**

- Courses: Quantitative Trading Strategies, Option Pricing, Stochastic Calculus, Probability & Stochastic Processes

Rensselaer Polytechnic Institute (RPI) — **Troy, NY**
Bachelor of Science in Computer Science (GPA: 3.42) — **May 2023**

- Courses: Data Structures & Algorithms, Computational Finance, Linear Algebra, Multivariable Calculus, Machine Learning from Data, Computer Organization, Operating Systems, Microeconomics, Economics and Computation
- Awards: Dean's Honor List; Rensselaer Leadership Award

EXPERIENCE

Campbell & Company, LP — **Baltimore, MD**
Quantitative Research Intern – Cash Equities Team — **Jun 2024 – Aug 2024**

- Researched and developed factor-like systematic strategies from 4 structured alternative data sets.

DV Trading LLC — **Chicago, IL**
Quantitative Researcher – University of Chicago Project Lab — **Jan 2024 – Jun 2024**

- HFT signal research on VIX futures data.
- Leveraged C++ to design and implement a low-latency MBO order book, and evaluated & suggested design improvements based on empirical data.

MIT Lincoln Labs — **Lexington, MA**
Algorithm Developer – AI Software Architectures & Algorithms Group — **Jan – Jun 2022**

- Designed and implemented an algorithm to increase the efficiency of a convolutional machine learning model facilitating the automatic geo-registration of images, resulting in a 20% decrease in processing time
- Utilized FastAPI, Docker, and MongoDB technologies for the first time while developing production-quality software, demonstrating adaptability and agility in learning new tools quickly

EXTRACURRICULARS

Cornell Trading Competition: 1st Place in Algorithmic Options Trading — **Cornell Tech, NYC**
Team Captain — **Oct – Nov 2022**

- Utilized the GARCH model to forecast the future volatility of an underlying ETF, resulting in the construction of a profitable volatility arbitrage strategy.
- Led a team of four quantitative researchers throughout the competition, providing guidance on daily trading decisions and risk management techniques to achieve outstanding results

IMC Global Trading Competition: Top 3.85% of 11,578 participants — **Troy, NY**
Team Captain — **Feb – Apr 2023**

- Formulated, implemented, and tested profitable market-making, pairs trading, and index arbitrage trading strategies to generate $140K in profit and a team ranking in the top 3.85% out of 11,578 participants in IMC Prosperity

Rotman Trading Competition: 16th in Algorithmic Volatility Trading — **Toronto, CA**
Team Captain — **Jan – Feb 2023**

- Identified and exploited several types of arbitrage opportunities, including exercise arbitrage, put/call parity arbitrage, calendar spread arbitrage, and volatility arbitrage
- Designed a convex optimization algorithm to select a portfolio of arbitrage opportunities with maximum returns and minimal exposure, ultimately reducing the portfolio exposure through careful hedging

2019 VEX Robotics World Champion — **Millburn, NJ**
Team Captain — **Jan – Feb 2023**

- Awarded a Certificate of Special Congressional Recognition for co-leading team 7405P to win the world's largest robotics competition, amongst 24,000 teams from 60+ countries
- Coordinated a team of 5 highly skilled programmers to create a low-latency C++ codebase for Cortex A9 ARM Processor

SKILLS

- **Computing:** C++, Python, MATLAB, Java, Linux/Unix, GIT, Conda/Pip, Venv
- **Libraries**: Pandas, Numpy, Matplotlib, Scipy Fast API, Pydantic, pyTest
- **Knowledge:** High Frequency Trading, Market Making, Linear Programming, Machine Learning