OSCAR MA

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EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS — New York/NY
Master of Science in Computational Finance (MSCF) — 08/23-12/24

- Market Microstructure & Algorithmic Trading, Financial Data Science, Machine Learning, Stochastic Calculus, Financial Time Series Analysis, Advanced Derivative Model, Simulation Methods for Option Pricing, Fixed Income.
- Carnegie Mellon Poker AI Tournament (Rank 3rd of 50+ Teams), Business Communication TA, Merit Scholarship Recipient.

SWARTHMORE COLLEGE — Swarthmore/PA
Bachelor of Arts in Computer Science and Mathematics (emphasis in Statistics and in Applied Mathematics) — 09/19-05/23

- Algorithmic Game Theory, Combinatorics, Stochastic and Numerical Methods, Algorithms, Theory of Bayesian Inference.
- President of Swarthmore Chess Club, Competitive Coding club (ICPC), Board Member of Chinese Society.

HARVARD EXTENSION SCHOOL — Remote
Time Series Analysis with Python (Grade: A) — 07/22-08/22

EXPERIENCE

PIMCO — New York/NY
Quantitative Researcher Intern — 06/24-08/24

- Leveraged Transformer and Autoformer models to predict PIMCO All Asset Fund flows, utilizing macroeconomic data and sentiment scores derived from NLP models to assist strategic decision-making; directional forecast accuracy of 67.8%.
- Developed a robust knowledge base gap identification module within the Retrieval-Augmented Generation (RAG) system, enabling precise detection and resolution of informational deficiencies, saving 5000+ human hours annually.
- Researched latest GraphRAG on Nvidia and Apple's earnings call transcripts, surpassing RAG in connectivity and accuracy.

VALKYRIE TRADING — Chicago/IL
Quantitative Trader Intern — 05/24-05/24

- Deepened expertise in options, shadowed Equity options desk, and participated in 'out-cry' market making exercises.
- Achieved 1st place in high-frequency trading simulations, by using Monte Carlo methods to calculate fair prices and dynamically adjusting based on inventory, concurrently co-optimized latency management and rapid trade execution.

INFINITEQUANT — New York/NY
Quantitative Developer Intern — 06/23-08/23

- Improved data collection speed by 50x faster by engineering market gateways using C++ library xTensor.
- Transitioned from Fn-log to Fmt-log for data manipulation, resulting in a 60x increase in data-logging efficiency.
- Developed Python functions dedicated to streamlining signal detection, contributing to more informed trading decisions.
- Incorporated Unittest/Pytest/Benchmark using NumPy and Pandas to validate newly created 'rolling' operators.

BCR CO PTY LTD — Sydney/Australia
Trading Analyst Intern — 12/20-02/21

- Analyzed market trends and published weekly reports alongside Senior Sales Executive on price of Gold, incorporating fundamental analysis, examining macroeconomic factors and geopolitical events. Achieved a trading profit of 8.7%.

RESEARCH/PROJECT

IMC PROSPERITY (Rank 18th out of 9139 teams worldwide; 6th in US) — New York/NY
Trading Game Participant — 04/24-05/24

- Conducted time series analysis on order book and trade data, focusing on price and volume dynamics across products.
- Developed Python scripts for algorithmic trading, implementing strategies such as market making, commodity trading, dynamic delta hedging for options, and pairs trading for ETF, adjusted inventory based on risk; backtested the trading model on historical data.

WEISS ASSET MANAGEMENT — Boston/MA
Weiss Work Experience Program Participant — 08/22-10/22

- Constructed and monitored an investment portfolio, continuously optimized using alpha, beta, sortino and sharpe ratios.

APPLICATION OF DEEP LEARNING TO ALGORITHMIC TRADING — Swarthmore/PA
Researcher — 05/22-09/22

- Developed and back-tested LSTM and ARIMA models in Python to forecast US stock price. Integrated these models into a Turtle trading strategy to assess profitability, benchmarking against traditional moving average strategies.

ADDITIONAL INFORMATION

- Interests: Chess, Photography, Poker, Trading, Basketball, Table Tennis
- Languages: English, Chinese, Python, C++, C
- Created a 'sun chasing' beach umbrella holder and received a patent on this product. (NO.CN208211655U)