Yanhao Guo

yg685@cornell.edu   Ithaca, NY 14850   cell: 858.999.4876

EDUCATION

Cornell University, College of Engineering, *Ithaca, NY*
Master of Engineering in Financial Engineering   **Expected December 2026**
Selected Coursework: Stochastic Calculus, Optimization (AMPL, etc), Fixed Income Pricing (HJM, etc), Machine Learning

University of California, San Diego, *La Jolla, CA*
Double Major in Data Science, Economics & Mathematics, **GPA: 3.895**   **June 2025**
Selected Coursework: Machine Learning, Optimization (Convexity), Economics, Statistics, Probability, Calculus

SKILLS

Programming: Python, C++, Excel, Back-trader (Backtesting), Bloomberg, AMPL
*Certificates***:** CFA Level II Candidate, FRM Part I (Passed), C++ programming for Financial Engineering (Baruch College), BMC (Bloomberg Market Concept), MOS (Microsoft Office Specialist)

PROFESSIONAL EXPERIENCE

Apexus-Tech, *Quantitative Research Analyst Intern,* New Brunswick, NJ   **July. to Sep. 2024**
- Designed an innovative market regime detection algorithm on technical signals (e.g. MACD, RSI) & fundamental factor features derived from Fama French Model, using random forest/calibrated LightGBM classifier.
- Implemented above algorithm to optimize company's existing EMA strategy's activation
- Backtrader backtests showed doubled Sharpe ratio and tripled five-year returns.
- Built a non-trending detector via logistic classification on ATR/ADX/Bollinger-bandwidth features, then K-means with hysteresis/min-dwell to form stable regime blocks.

Gordian Knot Capital Club, *Portfolio Manager,* La Jolla, CA   **Oct. 2023 to Present**
- Managed over $400,000 in assets from14 investors (grew from $49,470 in October 2023).
- Developed a strategic portfolio across diverse asset classes and risk framework encompassing beta-adjusted delta, delta-normal VaR, IV-aware Sharpe-ratio optimization, Greeks-based risk decomposition, and etc.
- Achieved 87% returns in 23 months (annualized 38.79%) with a Sharpe ratio of 1.67

China Merchants Bank, Treasury Department, *Quantitative Research Intern,* New York, NY   **Aug. to Oct. 2023**
- Estimated model-implied fair value of the U.S. Treasury yield curve by linking FOMC surprises, labor-market slack, inflation, and GDP growth to yield-curve factors (level/slope/curvature) using LASSO/Ridge regression.
- Validated via walk-forward out-of-sample tests (R^2, RMSE) against AR/random-walk benchmarks across regimes.
- Translated yield-curve forecasts into key-rate DV01 and convexity impacts, quantifying portfolio exposure to specific curve shifts (2y, 5y, 10y, 30y) for Treasuries and swaps.
- Implemented the classic cyclically-adjusted P/E model via regression to analyze stock market valuation and return.
- Reproduced an advanced two-step fair-value CAPE approach with a Vector Autoregressive Model incorporating real bond yields and key macroeconomic indicators. Enhanced forecast accuracy and reduced out-of-sample errors.

PROJECTS

Value Stock Trading Algorithm with Neutral Network, *UC San Diego, La Jolla, CA*   **Aug. 2025 to Present**
- Developed a fundamental scoring model to evaluate high-dividend-yield stocks relative to their trading comparables.
- Engineered key features derived with the Gordon Growth Model and economics metrics (e.g. CPI EMA gradients)
- Built a neural network trading algorithm to predict stock price movements after quarterly financial reports
- achieving 82% accuracy on test data.

Index-Enhanced Trading Model with Reinforcement Learning, *UC San Diego, La Jolla, CA*   **Feb. to May. 2025**
- Developed an index-enhancing strategy for the S&P 500, dynamically investing in top-performing industry sectors using a Thompson Sampling & Neutral Network empowered asset ranking model.
- Achieved a 7% higher annualized return and a 10% better Sharpe ratio against the S&P 500 over a 10-year backtest.

ACTIVITIES/INTERESTS

Traveling, Cooking, Photography, Hiking, Swimming, Table Tennis, Badminton