Junjie (Jay) Li

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EDUCATION

Rutgers Business School **May 2025 (Expected)**
M.S. in Quantitative Finance, GPA 3.7 **Newark, NJ**
Courses: Derivative, Data Visualization, Quantitative Trading Strategies, Numerical Analysis, Fixed Income, Econometrics.

South China University of Technology **Jun. 2023**
B.E. in Robotics Engineering & B.E. in Finance, GPA 3.6 **Guangzhou, China**
Courses: Data structure, Statistics, Data Analysis and Modeling, Probability, Linear Algebra, Calculus, Corporate Finance.

SKILLS

Programming: Python(Pandas, Numpy, Scipy), C++, SQL, EXCEL, R, Matlab, Tableau, Git.
Knowledge Areas: Machine Learning, Data Analysis, Risk Management, Option Pricing, Alpha Mining, Portfolio Management.
Trading Products: Equities, Options, Futures, Commodities, Fixed Income, Cryptocurrency.

WORK EXPERIENCE

Quantel AI **Jun. 2024 - Aug. 2024**
Quantitative Research Intern **New York, NY**

- Constructed long-only stock portfolios using a multi-factor model to outperform the S&P 500. Identified and optimized factors based on fundamental data such as cash flow, profitability, growth potential, and interest rates and ensured these factors achieving superior performance against benchmark after neutralization against Barra factors.
- Designed a Python-based single-factor backtesting framework, calculating key performance metrics (IC values, Sharpe ratios, and annualized returns) for each factor. Conducted comprehensive evaluations to refine and enhance factor performance.
- Developed a dynamic factor calculation tool by creating a Python class with multiple functions which allowed efficient calculation of various factor values directly from formulas, streamlining the research process and improving the accuracy of factor inputs in backtests.
- Managed extensive data processing tasks, including cleaning, visualizing, and organizing large-scale stock and factor datasets. Used the Ray framework to speed up data processing and scale backtesting.
- The best single factor achieved an annualized return of 20.78% from 2015 to 2024 through backtest with 1.43 Sharpe ratio.

City Investment Solutions **Oct. 2023 - Feb. 2024**
Junior Trader Intern (FX Market) **London, UK**

- Analyzed historical time series data using the MT4 platform with 15-minute candlestick charts across eight foreign exchange pairs. Executed strategies like mean reversion, trend breakout, and Bollinger Bands, based on technical indicators such as the Relative Strength Index (RSI) and Stochastic Oscillator.
- Traded foreign currencies with an initial capital of $300 and achieved a 15.38% return with 58.78% success rate.

PROJECTS

Research and Optimization of Futures Trading Strategies

- Replicated research reports on high-frequency futures volume-price factors and verified their effectiveness through simple backtesting, identifying strategy limitations.
- Improved strategy performance by using main contracts for backtesting, excluding signals on delivery days and before long holidays, and introducing a stop-loss mechanism, improving the Sharpe ratio from 0.44 to 0.64.
- Recreated and optimized a classic CTA strategy (ATR-based breakout) using multi-asset backtesting, improving annualized returns by adjusting entry/exit rules and fine-tuning parameters such as ATR periods and signal thresholds for increased robustness in volatile market conditions.

Stock Factor Investment Strategy using Machine Learning

- Developed an alpha strategy based on XGBoost model to construct a Chinese-traded stock portfolio.
- Utilized the exponentially decayed Rank Information Coefficient values from the past year to select alpha to forecast the weekly price amplitude and construct the portfolio based on the predicted probability and expected returns.
- Achieved an annualized return of 18.15% from 2012 to 2022 through a backtest with a Sharpe ratio of 0.76.

CERTIFICATIONS & OTHERS

WorldQuant Alpha Challenge (Gold Level Top 1%)

- Developed over 20 predictive stock factors by integrating various datasets and analyzing stock market, company fundamentals, and sentiment data, covering aspects like volatility, momentum, and growth ability.