Zhang Wenchao | FRM, CQF*(W)

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Employment & Internships

Zenik Market Technologies | Zenik Capital LLC. **New Jersey, US**
Quantitative Analyst/Developer *Feb.2020 - pres.*
- Constructed mid to high-frequency asset-level strategies by customized probabilistic graphical models, template/sequence model, neural network & reinforcement learning, effectively reducing maximum drawdown and transaction cost and enhancing strategies' robustness.
- Developed a portable, fast iterative, scalable trading and portfolio management system, integrated with Pytorch & Tensorflow framework and Broker APIs, providing reproducible feature engineering research on driving factors of the market returns.

Iyka Trader | Compuvison consulting Inc. **New Jersey, US**
Quantitative Analyst/Developer *Dec.2018 - Dec.2019*
- Researched on enhanced indexing portfolio strategies using sequence models to produce trend factors by the prior unknown structure breaks in US stock market; Designed order based portfolio allocation system with margin requirements & implementation shortfall analysis based on market micro-structure.
- Developed comprehensive factors module, paper-trading and live trading SDK and backtesting platform using MySQL & MongoDB, Angular, Websocket, crossbar & Docker.

SooChow Fintech Ltd. | Investment Research **Shanghai, China**
Financial Engineering Assistant *Feb.2018 - Aug.2018*
- Developed an open-source python package "factorset" for crawling, cleaning, processing, dumping Chinese financial data and generating financial ratios and indicators from stock's price, volume and financial statements.
- Experienced in CRUD and aggregation pipeline in MongoDB Compass and shell for financial database. Build an Async financial data crawler via Python with Proxy pool on Redis. Regularly report data and technical issues to data providers (Wind, Tinysoft).
- Constructed and empirically tested 100+ factors based on six Style Factor categories (Size, Beta, Momentum, Earning, Growth, Volatility); Implemented multi-factor models on Chinese stock market. Performed market-/sector-neutralization and orthogonalization analysis on factors as well as performance attribution on factor portfolio.

Haitong Securities | Wealth Management Center **Shanghai, China**
Quantitative Trader Assistant *Oct.2016 - Dec.2017*
- Implemented momentum indicators to generate trending signals for quantitative trading strategy team. Examined scheme-switching signals with different order types via python back-testing framework. Improved an open-source back-testing framework for minutes data feed under Chinese market trading rules such as the calendar difference, trading lunch break.
- Presented strategy tests in support of business priorities and strategic initiatives. Clarified and assessed pros and cons of event-driven and vectorized back-testing concepts and structures. Presented the similarities and differences of major event-driven engines and several Chinese web-based platforms. Collaborated with portfolio managers to develop MATLAB and VBA programs to provide operation and maintenance on daily performance attribution analysis of Fund of Hedge Funds.

Professional Skills

Language: English, Chinese, Japanese
Coding: Python, C/C++, MATLAB, VBA, JAVA, JS/TS, SQL
Typeset Tools: LaTeX, Word, Excel, Powerpoint
Stat Software: R, Stata, Eviews, SPSS, SAS EM

Certifications

CFA Level III Candidate; Certificate in Quantitative Finance with Distinction & Wilmott Award; Financial Risk Manager(FRM)

Educational Background

Princeton University **New Jersey, US**
Inter-University Doctoral Consortium *Feb.2019 - May.2020*
Courses: Convex optimization, Machine learning & pattern recognition, Quantitative Data Analysis in Finance

Rutgers University, New Brunswick **New Jersey, US**
Master of Science in Mathematical Finance *Aug.2018 - May.2020*
Core Courses: Mathematical Finance, Numerical Analysis & PDE, Econometrics, Portfolio Theory & Application

Southwestern University of Finance and Economics **Chengdu, China**
Bachelor of Management | International Business, Field Related: International Finance, Global Trade Network *May.2017*

University of California, Los Angeles **Los Angeles, US**
Summer Session Exchange; Courses: Real Analysis; Econometrics; Econometrics Laboratory *Jul.2016 - Sept.2016*

Research & Projects

Master's degree Essay - Dueling Double Deep Q learning in intraday trading (Python & MATLAB) **Dec.2019**
- Developed a reinforcement learning gym environment for intraday stock trading. Implemented dueling double deep Q learning in the trading environment with 43 stocks' minute bars. The agent is able to learn how to trade with day-trade restrictions and avoid momentum risks with in 10 years trainning periods and 5 years testing periods.

Certificate in Quantitative Finance Final Project (Python & MATLAB) **Jan.2018**
- *Backtesting on Black-Litterman Model with Classifier Views and Robust Volatility:* Generated one-step market judgements via support vector machine, Random Forest and Naive Bayes; developed a weekly rebalancing trading strategy in python backtesting framework;
- *Credit valuation adjustment Calculation for Interest Rate Swaps:* Validated OIS and LIBOR curve construction on Heath–Jarrow–Morton forward rate through Monte Carlo simulation using MATLAB.

Quantitative Method and Statistical Arbitrage aiming at 510050.SS ETF options (MATLAB, VBA) **Mar.2017**
- *Outstanding Honor thesis.* Implemented Greeks hedging and constructed local and stochastic implied volatility surfaces for 510050.SS ETF options; Collected in SWUFE Excellent Undergraduate Paper.