Diwei SHI

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Objective: Quant Research, Quant Trading, Quant Investment, Quant Risk Management, Quant Developer

EDUCATION

The University of Tokyo - *Master in Quantitative Finance*, Graduate School of Economics — Apr 2019 - Mar 2021

- GPA: 3.0 / 3.0 (Top 1 out of 11)
- Relevant Coursework: Stochastic Calculus, Probability Theory, Advanced Derivative Pricing, Interest Rate Models, Data Mining, etc.

Southwestern University of Finance and Economics - *B. A. in Finance*, School of Finance — Sep 2014 - Jul 2018

- GPA: 4.1 / 5.0 (Top 2%) | China National Scholarship (Top 0.2%), Scholarship awarded by China Scholarship Council (top 0.6%)
- Relevant Coursework: Econometrics, Statistics, Financial Economics, Investment, Financial Derivatives, Mathematical Finance, etc.

PROFESSIONAL EXPERIENCE

Aristagora Advisors Co., Ltd — Tokyo

Quantitative Analyst - Asset Management Division — Apr 2021 - Present

Assisted in managing in-house portfolios.

- Helped the portfolio manager manage 6 in-house FoF portfolios which account for 48 million USD AUM.
- Calculated and analyzed the performance attribution, risk factor, and correlation by Python and VBA on a weekly basis. Conducted due diligence on and proposed 3 quant hedge funds at the investment committee.
- Had 16-month track record with the best portfolio achieving 18.52% annualized return and Sharpe Ratio of 2.14.

Researched and developed portfolio optimizer.

- Researched classical static Mean-Variance optimization under VaR and weight constraints using the Simulated Annealing algorithm to compute the optimal allocation to each offshore hedge fund.
- Conducted research on dynamic portfolio optimization for daily-liquidity UCITS funds using deep learning. Built the end-to-end Recurrent Neural Network (LSTM) and programmed Python code with Tensorflow to train the model. Back-tested the out-of-sample data and achieved 1.9 Sharpe Ratio after the transaction costs.
- Developed the optimizer as a web app. Visualized the historical performance under optimal weights. Presented the correlation heatmap and performance statistics within a dashboard.

Developed portfolio management tools.

- Developed a desktop app by Python and PostgreSQL to generate internal reports. Designed the app UI by PyQt. Styled the generated reports by Excel VBA. Distributed the app to other divisions to help with external reporting. Reduced the hundred-hour manual works to simple one click.
- Developed a web-based app to generate product summary slides and customize the styles automatically. Launched the app in LAN so that other divisions can easily download the slides. Shortened the time of making hundreds of slides from tens of hours to a couple of seconds.

Quantitative Internship - Asset Management Division — Aug 2020 - Mar 2021

- Built a mathematical model to decompose the cumulative portfolio return into different factors. Created a systematic methodology to compute the portfolio performance precisely. Automated the performance calculation and reports generation process by Python and VBA.
- Modeled the FX dynamics and priced the FX Knock Out Discount Accumulator by Monte Carlo simulation. Computed the VaR for both parties of the contract and analyzed the asymmetrical risk features. Protected the company from suffering huge potential losses.
- Estimated the VaR by Extreme Value Theory approach to capture the fat-tailed feature of hedge funds.

GCI Asset Management — Tokyo

Quantitative Research Intern at Risk Management Department — Feb 2020 - May 2020

- GCI Asset Management is one of the largest Japanese quant hedge funds. Its AUM values circa 3 billion USD.
- Conducted back-testing task of the Time Series Momentum strategy through building a model to split the time intervals and to calculate EMA returns and volatility at different time points. Programmed Python code to compute the model automatically given any data that can be traced back to more than 30 years ago. Ultimately optimized the algorithms to make the computation twice as fast.
- Calculated the Sharpe Ratio, Sortino Ratio, and Maximum Drawdown of 22 different index futures under this strategy. Discovered the features of different combinations of the Lookback period and Holding period. Analyzed the performance attribution of this strategy.
- Enhanced the performance by utilizing deep learning techniques. Introduced the LSTM network to optimize the position dynamically.

KYOTO Lab — Tokyo

Research Intern at Research Department — Dec 2018 - Jan 2020

- KYOTO Lab is the essential research department and the holding company of the hedge fund GCI Asset Management.
- Researched the solar-power infrastructure fund. Implemented the theoretical model derived from a relevant paper to calculate the maximum solar irradiance at any given time and space. Calibrated the model using 10-year real solar irradiance data.
- Built an optimization model to simulate the generated power of the solar panels. Programmed MATLAB code to estimate the parameters of the model through the genetic algorithm and finally stabilized the parameters.
- Combined the variance reduction techniques with the genetic algorithm to reinforce the power of computation. Ultimately reduced half of the time needed to run the program.

SKILLS, CERTIFICATIONS & OTHERS

- **Certifications**: FRM Program - Passed FRM Exam Part I & Part II, JLPT(N1), TOEFL (92), GMAT (690)
- **Skills**: Python, MATLAB, C++, R, VBA, PostgreSQL, SQLite, Bloomberg, Tensorflow, Flask, PyQt, Git, HTML, CSS, JavaScript, JQuery, AJAX, Latex, Word, PowerPoint, Excel
- **Languages**: Japanese (Fluent), English (Fluent), Chinese (Native)
- **Activities**: 2017 Autumn Annual Meeting of Japan Society of Monetary Economics (Participant), The 13th International Conference on Asian Financial Market and Economic Development (Organizer)
- **Interests**: Investment (Profited in a pairs trading strategy with Japanese stocks in 2021; Created a monitoring app to dynamically allocate positions to ETFs with deep learning mode.)

PORTFOLIO

- Track record, optimizer demo, and product summary slides generator demo
- Visible on generalstilwell.github.io