

Zhanhongtu (Bobby) Yao

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, **GPA: 4.07**

Expected Dec. 2023

Chinese University of Hong Kong, Shenzhen, China
Bachelor of Science in Quantitative Finance, **First Class Honors, GPA: 3.75**

May 2022

Selected Coursework: Econometrics, Derivatives, Fixed Income Securities, Optimization, Time Series, Stochastic Processes/Calculus, Machine Learning, Python Lab, Data Structure, Real Analysis, ODE, Monte Carlo Simulation

SKILLS

Technical: Python (Pandas, Numpy, Scikit-learn), R, MATLAB, Java, Stata, Bloomberg

EXPERIENCE

Quantitative Research Intern (FICC), Huatai Securities, Nanjing, China **March to July 2022**

- Built regression models between credit spread and accrual-quality indicators; constructed composite earning-quality factors, which yielded the highest statistical significance and replenished the existing factor pool.
- Programmed back-testing tools to validate 2 earnings-quality factors for debentures, and tested their effectiveness under different bond ratings using Python based on IC, t-values and IR.
- Included those tools to build a multi-factor model for debentures investment involving profitability and solvency, implemented factor orthogonalization and achieved an excess annual return of 1.62% and a Sharpe of 2.34; tested the earnings-announcement effect of MTNs related to earnings-management indicators on YTM of bonds.
- Co-wrote back-testing programs on timing strategies of bond indices and tune parameters for stop-loss refinement, which enhanced annual return by 3.92% and reduced MDD by 2.87%.
- Helped maintain credit analysis database, and wrote programs to transfer data frequency for bonds.

Analyst Intern, Jones Lang LaSalle, Shenzhen, China **May to July 2021**

- Built equity valuation models, including FCFE and CAPM, and determined model parameters.
- Extracted existing research reports at macro, industry and firm level via Wind to conduct outlook for clean energy firm.

Quantitative Research Intern, Zhinuo Investment, Nanjing, China **Apr. to June 2020**

- Evaluated the strategy of proportioning two index funds to achieve optimal returns and maximum drawdown using Python in portfolio management; designed back-testing algorithm to test strategy performance.
- Constructed analysis tools to validate a cashflow factor concerning ROIC (return on invested capital) under different market values, which resulted in a 7.17% best annual return and 200% cumulative return over a 10-year horizon.

Teaching Assistant of FIN4110(Derivatives), CUHK, Shenzhen, China **Jan. to May 2022**

- Gave tutorials to a class of 150 every week on topics including derivative pricing and hedging strategies and hosted Q&A sessions concerning course materials during office hour.

PROJECTS

Machine Learning: Bankruptcy Prediction on Polish Banks, CUHK, Shenzhen, China **March to Apr. 2022**

- Conducted data preprocessing (missing value process and rescaling), and used KNN, Least Square (with regularization), Logistic Regression, LDA, Random Forest and Neural Network models for training, validating, and testing; achieved a test AUC of 0.76 with Python.
- Identified key features that lead to bankruptcy using feature extraction in Random Forest to see economic implications.

Time Series: Stock Returns Forecasting and Portfolio Construction, CUHK, Shenzhen, China **Apr. to May 2021**

- Constructed and fitted ARMA models and added ARCH models by doing residual analysis on 10 S&P constituent stocks' 5-year returns; made minimum-MSE prediction based on the model and achieved a MSE within 0.4%.
- Built portfolios on stocks to track S&P500 using TE minimization and generate corresponding trading strategies.

ACTIVITIES/INTERESTS

Cantonese Club; architectural design; piano; golf; badminton; table tennis; scuba diving