

YUEYAN (FLORA) ZHAO

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EDUCATION

NEW YORK UNIVERSITY

New York, US

The Courant Institute of Mathematical Sciences (expected-Dec 2022)

M.S. in Mathematics in Finance

- **Coursework:** time series analysis, stochastic calculus, statistical arbitrage, OOP in Java, market microstructure, machine learning, algo trading, scientific programming in Python

LONDON SCHOOL OF ECONOMICS

London, UK

B.S. in Financial Mathematics and Statistics, First Class Honors (July 2020)

- **Coursework:** probability, distribution and statistical inference, risk management, derivatives pricing with C++, time series, Machine Learning, PDEs, linear regression, generalized regression models

EXPERIENCE

Derivatives China (Quantitative Hedge Fund with AUM of 2 bn CNY)

Shenzhen, CN

Quantitative Researcher Intern, Option Investment (Python oriented) (Jul 2020-May 2021)

- Improved processing time of options tick data from 10 mins to 20 secs via VBA; designed real-time spreadsheets on 5 cross PutCallParity strategies, calendar spread strategies; monitored real-time returns and realized automation by contracts by tick data
- Built and enhanced a maximum 4-leg pairs trading strategy; built-in take/offer liquidity in operation types including open/close positions and complete legs; managed risk and minimized PnL loss in case of adverse spread price movements; pairs trading strategy was applied in arbitrage strategies
- Designed and back-tested an intraday PCP arbitrage strategy; tested intraday spread stationarity; generated price-based trading signals by OLS (tried Ridge Regression); back-tested using tick-level pairs trading strategy; calculated daily PnL and generalized to a monthly strategy

Principal Insurance Company

Hong Kong, SAR

Summer Intern, Actuary (June 2019-Aug 2019)

- Updated semi-annual lapse rate using VBA, saved time by 70%, analyzed factors for rate increase
- Extracted AUM on a client portfolio research study and computed net asset fees on raw data by SQL
- Conducted fundamental analysis on funds in HK pension schemes

PROJECTS

London School of Economics

London, UK

Multiple Linear Regression of P/E Ratio and Other Variables (R) (April 2020-May 2020)

- Variable selection from 11 variables to predict DM & EM P/E ratio; specified a multiple linear regression model; applied stepwise regression and best subset to select out explanatory variables
- Computed GVIF and avoided multicollinearity; removed influential points by Cook's Distance; applied WLS to solve heteroskedasticity; optimized and tested model efficiency

Cash-or-Nothing Digital Options Pricing (C++) (Nov 2019-Feb 2020)

- Applied GBM for Monte Carlo estimator of option price, solved its variance and confidence intervals; reduced the variance by 50% in Antithetic Variate method
- Simulated sample paths by Constant Elasticity of Variance Model; built Control Variate method and minimized covariance of option and stock prices; reduced variance by 63%

Multivariate Volatility Models Analysis (Python) (Oct 2019-Nov 2019)

- Estimated DCC model of JNJ, PG and HD; developed factor structure using PCA; built O-GARCH and improved idiosyncratic risk factor modelling on O-GARCH with GARCH

Univariate Volatility Model of Chevron Corporation (Python) (Dec 2019-Jan 2020)

- Compared GARCH, GJR-GARCH, GARCH(t(8)) (best-fitted), Power GARCH on CVX stock return

COMPUTATIONAL SKILLS/ OTHER

Computer Skills: Python, JAVA, C++, R, MATLAB, VBA; **Languages:** English, Mandarin

Interests: Enjoy reading Financial Times, skiing (10+ years), and dancing