SULIN (SHIRLEY) LIU
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EDUCATION

NEW YORK UNIVERSITY New York, NY
The Courant Institute of Mathematical Sciences
MS in Mathematics in Finance (expected – Dec. 2018)

- ***Coursework:*** Stochastic calculus, interest rate models, securitized product, VaR, option pricing and hedging, machine learning, FX options, Monte Carlo simulations, market microstructures, OOP in Java, portfolio optimization, time series, statistical arbitrage

WUHAN UNIVERSITY Wuhan, China
BS in Mathematics and Economics (Sept. 2013 – Jun. 2017)

- ***Awards:*** Outstanding Student, Meritorious Winner in Interdisciplinary Contest in Modeling

EXPERIENCE

JPMORGAN CHASE & CO. New York, NY
Quantitative Research Summer Associate (Jun. 2018 – Aug. 2018)

- Researched and optimized asset management models on lending value of structured notes, fixed income, unrated bonds, convertible bonds; evaluated conceptual soundness, back testing and sensitivity analysis
- Developed model interconnectedness platforms to control aggregate model risk; constructed data handlers to visualize model performance and analyze model inputs (Python, VBA)
- Developed and maintained generic auto-updating tools to optimize data governance (SQL, Python, VBA)

CHANGJIANG SECURITIES Wuhan, China
Researcher Intern (Jul. 2015 – Aug. 2015)

- Predicted Bitcoin price variation with Bayesian regression for Latent Source Model based on a paper; and corresponding trading strategies achieved > 15% annualized return in back-testing (R)

PROJECTS

NEW YORK UNIVERSITY New York, NY
Long-term Research Assistant Project: (Sept. 2018 –)

Factor-based Equity Trading: Factor Selection, Portfolio Construction & Back testing (Python)

- Design and build back testing engines for parameterizing and testing strategies, portfolio management, generating trades and risk analysis
- Develop factor selection and factor models using various machine learning techniques

Short-term Course Projects:

- ***Volatility Calibration*** (Python): Constructed volatility smile for FX options by calibrating the SABR model to market quotes of ATM, 25d RR, 25d BF; calibrated local volatility of WTI option using "little - t" paradigm for crude oil option trading
- ***Monte Carlo Simulation with Variance Reduction*** (Python): Implemented Monte Carlo simulation to price synthetic CDO using one-factor Gaussian Copula model, reduced MC errors by antithetic variate and importance sampling techniques
- ***K-means Clustering*** (Java): Grouped 10,000 people into clusters of 20 using Lloyd's algorithm; modified the algorithm for fixed-size clustering

UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA

Global Financial Data Project: Analysis of Private Companies with Big Data

- Used alternative data (like website rank) to predict private companies' financial performance
- Implemented fully-connected Neural Network (Caffe, Python) and regression models (Python) to analyze correlation between website rank and financial performances of public companies

COMPUTER SKILLS/OTHER

Programming Skills: Java, Python, VBA, SAS, SQL, STATA
Certification: CFA Level I passed
Language: Mandarin (native), English (fluent)