

JIACHENG YUE

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EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

Sep 2018 - Dec 2019

M.S. in Mathematics in Finance

- **Selected Coursework:** Stochastic calculus, continuous time pricing theory, equity derivatives, fixed income and FX derivatives, algorithm trading, time series analysis, scientific computing

PEKING UNIVERSITY

Beijing, China

B.S. in Economics & Environmental Science

Sep 2013 - Jul 2018

- **Coursework:** Markov chain, Brownian motion, Black Scholes model, ODE, PDE, SDE, linear regression, data structures in C++, probability theory, financial economics, financial statement analysis
- **Extracurricular Activity:** President of the Students' Union in 2016

EXPERIENCE

DEUTSCHE BANK

New York, NY

Quantitative Summer Analyst at FIC

Jun 2019 - Aug 2019

- Developed trading strategies on implied volatility skew of fixed income options; explored the measurements and economical determinants of volatility skew, and trained SVM, CNN and LSTM models based on the determinants; back tested over past five years data on cap/floor and USD swaption
- Analyzed and decomposed daily PnL of risky bonds into Greeks by creating a python platform; improved the performance of explanation power by adding recovery rate and cross factor effects to existing risk viewers, which lowered 95% of daily unexplained PnL for credit trading desks
- Built a Visual Basic tool that calibrated OIS and LIBOR discount curves automatically; calibrated SABR model to price and compute DV01, Gamma, Vega and Theta for swaptions

GUOTAI JUNAN SECURITIES

Shanghai, China

Quantitative Analyst Intern

Jan 2017 - Apr 2017

- Calibrated SABR model to market quotes of SSE 50 ETF options using nonlinear least squares; provided the implied volatility curve for trading desks for delta hedging and volatility trading
- Back tested and trained Hidden Markov Model on treasure future (TF); used Kaufman moving average to identify trading signals; achieved annual return by over 10% in back test
- Created an automated interface to retrieve and organize the data flow from Wind database for traders' use in Python, which increased time efficiency by 90% for trading desks

MORGAN STANLEY HUAXIN SECURITIES

Beijing, China

Summer Analyst at Fixed Income Division

Jun 2015-Aug 2015

- Bootstrapped yield curves using data from the interbank debt market in China with tension spline interpolation; estimated duration and convexity of the first green financial bond as a summer project; the summer project ranked 1st among all intern teams
- Researched on issuance of perpetual bond for commercial banks to reinforce the other Tier I capital instruments, and completed reports based on Basel III and regulations in China

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Course projects

Sep 2018 - May 2019

- **Mean-variance portfolio optimization with trading cost:** Built a QP framework using high frequency data (226GB) on top S&P 500 stocks; estimated bucket returns using Black-Litterman model; estimated cost function with non linear regression by following Almgren (2005)
- **Monte Carlo Simulation for option pricing:** Developed a distributed Monte Carlo simulator using Java middleware (ActiveMQ) under a client/server framework; priced Asian and American options (least square MC); reduced variance by importance sampling and quasi random sequence (sobol)

COMPUTER SKILLS/OTHER

Programming Languages: C++ (4 years), Python (3 years), Java (1 year), Matlab (4 years), R (basic), Latex
Financial Certificates: CFA level I passed