Qingyang (Young) Gao

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EDUCATION

Princeton University **Princeton, NJ**
Master's Degree in Financial Mathematics Aug 2021–May 2023 (Expected)

- **Anticipated Coursework:** Asset Pricing, Statistical Analysis of Financial Data, Energy and Commodities Markets
- Pursuing Certificate in Machine Learning: Linear and Nonlinear Optimization, Statistical Foundations of Data Science

Fudan University, School of Economics, School of Computer Science and Technology **Shanghai, CN**
Bachelor's Degree in Finance, with a Minor in Data Science Sep 2017–Jun 2021

- **Major GPA**: 3.94/4.00; **Rank**: 2/80
- **Math Coursework**: ODE, Stochastic Process, Stochastic Calculus in Finance, Time Series Analysis, Advanced Econometrics
- **Computer Science and Data Science Coursework**: Python Programming, Application of Quantitative Analysis Software, Linux Operating System, Data Structure and Algorithm Analysis, Database Systems, Data Mining, Machine Learning
- **Finance Coursework**: Financial Economics, Behavioral Finance, Financial Derivatives, Fixed Income Securities, Accounting

University of Pennsylvania **Philadelphia, PA**
International Guest Student Aug 2019–Dec 2019

- **GPA**: 4.00/4.00. **Relevant Coursework**: Statistical Inference (A+), Mathematical Statistics (Graduate Level, A+), Calculus IV (Applied Partial Differential Equations) (A+), Computer Methods I (Numerical Analysis) (A+)

WORK EXPERIENCE

Ping An Technology **Shanghai, CN**
Algorithm Engineer Intern, Knowledge Graph Team Oct 2020–Nov 2020

- Built a pool of selective stocks based on analyst recommendations and rankings from 2015 to 2019; combined fundamental and technical factors to create a strategy achieving 26.5% annual return and 12.5% maximum drawdown
- Authored model documentation for 30+ firm indicators, patterns, and signals for investments
- Provided the firm with an established and systematic backtesting library using OOP in C++ to save over 95% of time

Kaifeng Investment Management **Shenzhen, CN**
Quantitative Research Intern, Quantitative Trading Department Apr 2020–Aug 2020

- Created models based on hedging behavior of stock index futures and applied basis adjusted price-volume features to trading stock index futures using regression analysis, achieving an information coefficient (IC) of over 0.08
- Analyzed and interpreted high-frequency data from the SSE Science and Technology Innovation Board (STAR) using Principal component analysis (PCA); discovered the significant intraday reversal effect of STAR market stocks
- Developed and submitted 15+ market-neutral alphas with excellent performance; the alphas traded on the live market and achieved top 10% performance within the whole alpha pool

Shanghai Luoshu Investment **Shanghai, CN**
Quantitative Research Intern, Division of Investment and Research Jan 2020–Mar 2020

- Identified statistically significant alphas in index futures overnight trading; spearheaded a team of interns to construct a factor model to obtain stronger alphas on index futures using Python
- Applied machine learning techniques, including LASSO regression, ridge regression, decision tree, logistic regression, neural networks, and other models to predict overnight returns and evaluated factor performance
- Implemented backtesting programs to calculate the Sharpe ratio, profit over turnover and other indicators; developed daily adjustment strategies with a Sharpe ratio above 3 and profit margin above 6.5 bps

RESEARCH EXPERIENCE

An Empirical Analysis of the Barillas-Shanken Six-Factor Asset Pricing Model in Chinese A-Share Market **Shanghai, CN**
Research Assistant, **Advisor:** *Professor Hongfei Zhu, Fudan University* Apr 2021–Present

- Studied the efficiency of Barillas-Shanken asset pricing factors including SMB, HML, and ROE using the Fama–MacBeth regression in R, compared the explaining effect of the cross-sectional return difference in stocks with other asset pricing models
- Enhanced factor performance based on research of economic and financial interpretations in Fama and French (2016) etc.

SSE 50ETF Option Implied Volatility Surface: Analysis of Stochastic Local Volatility Model **Shanghai, CN**
Research Assistant, **Advisor:** *Professor Xianglin Jiang, Fudan University* Oct 2020–May 2021

- Calibrated a stochastic local volatility model (SLV) to price the SSE 50 ETF option using the finite difference method and Monte Carlo simulation; predicted implied volatility of the SSE 50 ETF option
- Built SSE 50 ETF option hedging strategy using SLV-projected delta; reduced hedging error by over 30% compared to the Heston stochastic volatility model in regard to Root Mean Square Error

ADDITIONAL INFORMATION

Computer skills: C++ (STL, Boost), Java, Python (pandas, scikit-learn, TensorFlow, PyTorch), R, MATLAB, SQL, LaTeX, Linux

- *Certificate with Distinction of C++ Programming for Financial Engineering from QuantNet* Nov 2019

Languages: Mandarin (native) **Interests:** Piano (Grade Examination of Piano Level 10 for Nonprofessionals), Fitness