ZHANGHAO LI

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EDUCATION

2023 - 2024 **Imperial College** **London, UK**
Master of Science of Business Analytics (Overall Grade 78.6, Distinction)
Core modules: Advanced Machine Learning, Machine (Deep) Learning, Data Structure and Algorithm, Time Series Analysis, Optimization& Decision Model, Statistics& Econometrics, Database Technology, Financial Analytics (Mathematics), Natural Language Processing, Causal Inference, Energy Derivative
Dissertation: Beyond OLS: Estimating Heterogeneous Treatment Effect by Causal Forest and Double Machine Learning (80) ***Link***

2019 - 2023 **Shanghai University of Finance and Economics** **Shanghai, China**
Bachelor of Accounting (GPA 3.6/4.0, rank 10%)
Core Courses: Python programming (4/4), Linear Algebra (4/4), Mathematics Model (4/4), Statistics (4/4), Probability Theory (4/4), Advanced Mathematics (4/4), Advanced Corporate Finance (4/4),
Honors: China Undergraduate Mathematical Modelling Contest 2020/2021 3rd/2nd prize in Shanghai (top 20%/5%), University Scholarship 2019-2023 (top 5%), Teach Assistant of Advanced Mathematics

WORK EXPERIENCE

2024 **Imperial College Business School, Student Investment Fund (Internship)** **London, UK**
Quant Analyst (January - August)

- Proposed quantitative strategy and risk management strategy for a school-run ￡100,000 portfolio
- Conducted literature review and implemented pair-trading strategy base on S&P 500 stocks and ETFs, get annualized return 8.42% and sharpe ratio 1.5, enhanced by K-means and Ant Colony Optimization, proposed potential improvements by combining with other quantitative strategies and VIX index based on different market conditions

2023 **Huatai Security, FICC department (Internship)** **Nanjing, China**
Rates Quant (July - August)

- Analysed Swap (IRS) pricing paper, inducted bond-equal-value model, HW model and BDT model to price Swap and designed mean-reversion strategy and optimizing strategy to outperform benchmark by 10%, reported as final project to senior traders and portfolio manager
- Conducted secondary market virtual bond trading, managed a 500m￥ portfolio for 1 month, earned 1.1m￥ profit by buying high yield bonds and sold low yield bonds
- Researched Corporate bond base on maturity, coupon rate, issued size and issuer’s operating and financial status, wrote a rating report highly commended by portfolio manager

2023 **Bank of China International, Financial Derivative department (Internship)** **Shanghai, China**
Proprietary Quantitative Researcher (February - July)

- Developed high performance python factor analysis system, calculated and analysed over 200 price/vol and financial factors in Chinese stock market for 10 years
- Tested multiple quantitative strategies from sell-side analyst report using python to observe performances, and reported to portfolio manager, included Risk-parity model, risk budget model, RPS. Incorporated risk management based on VAR, CVAR, MACD, ATR and Bollinger bands, applying time series model ARIMA, GARCH to predict stock price. Managed projects using Git-hub and standardized codes

2022 **China International Capital Corporation, Equity Department (Internship)** **Shanghai, China**
Quant Analyst (July - December)

- Researched CTA investment strategy, for nonferrous metal futures using python, based on over 3 million price data, identified price breakthrough, calculated 2 price factors. Reported a strategy with annual return 23% and Sharpe ratio 2.1 to portfolio manager
- Utilized SQL to analyse over 20 mutual fund and hedge fund, considered portfolio manager’s background, historical performance, portfolio holding, investment philosophy and risk-control.

ADDITIONAL SKILLS

IT SKILLS
Python(proficient), R, MATLAB, SQL, C++, JAVA, Bloomberg, Excel, HTML, STATA, Tableau
LANGUAGES
English (Proficient), Mandarin (Native Speaker), Cantonese (Native Speaker)