

# Yiyang Xu

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## EDUCATION

### University of Southern California

*Master of Financial Engineering*

2022 – 2024

- **Core Courses:** Stochastic Processes, Option Pricing, Quantitative Investing, Risk Management

### Shanghai Jiao Tong University

*Bachelor of Electrical and Computer Engineering & Data Science*

2018 – 2022

- Top 3 University in China
- **Core Course:** Honors Mathematics, Bayesian Analysis, Probability and Random Process, Machine Learning

## EXPERIENCE

### WorldQuant, LLC

U.S.

*Quantitative Research Consultant*

03/2024 – Present

- **Alpha Factor Mining:** Utilized genetic algorithms to create 150+ alpha factors in US, Chinese stock market, including 100+ price-volume factors. Achieved a maximum out-sample Sharpe ratio of 5.07.
- **Statistical Arbitrage Model:** Developed a statistical arbitrage model for the A-share market. Utilized cointegration and mean reversion strategies, achieving a Sharpe Ratio of 2.8 and annualized return of 25%.

### China International Capital Corporation

Shanghai, China

*Quantitative Developer Intern*

05/2023 – 08/2023

- **Snowball Option Pricing:** Priced a snowball product linked to the CSI 500 index using the Black-Scholes model and Monte Carlo simulation in Python. Implemented partial differential equations (PDEs) to calculate the Greeks.
- **Portfolio Backtesting System:** Developed a backtesting and risk management system for Fund of Funds (FOF) portfolios. Utilized Python and SQL to derive key risk and return metrics, including Conditional Value at Risk (CVaR) and Stress Testing. Conducted sensitivity analysis to evaluate portfolio risk.
- **LSTM-based Volatility Prediction:** Implemented LSTM models to predict stock volatility in the A-share market using TensorFlow, creating trading strategies that achieved a Sharpe Ratio of 3.41 and a 62% return, with a win rate of 72.2% and maximum drawdown of 7.6%.

### Advanced Network Laboratory – Alibaba Group

Shanghai, China

*Data Scientist*

07/2021 – 07/2022

- **GNN Based Recommendation System:** Leveraged Graph Neural Networks to model user-item interactions as a bipartite graph, employing Graph Convolutional Networks (GCNs) to aggregate neighbor information.
- **Optimize with Attention Mechanism:** Implemented Graph Attention Networks (GATs) to weigh the importance of different neighbors, improve recommendation accuracy by 20% compared to collaborative filtering methods.

## RESEARCH

### Smart Display Lab – Shanghai Jiao Tong University

12/2019 – 06/2021

- **Advanced AR Algorithms:** Developed a Semantic SLAM algorithmic framework, incorporating graph optimization (g2o and Ceres Solver). Improved robustness by around 40% compared to Visual SLAMs.
- **LiDAR Data Processing:** Applied deep learning techniques, using PointNet++ for point cloud segmentation and classification. Improves classification accuracy by 25% and data processing speed by 42%.

## SKILLS

**Programming:** Python, R, C++, Java, SQL, MATLAB, Linux(Shell scripting)

**Mathematics:** Probability Theory, Statistical Analysis, Time Series Analysis, Stochastic Processes

**Financial Engineering:** Derivatives Pricing, Portfolio Optimization, Fixed Income, Algorithmic Trading.

**Data Science:** Deep Learning, Feature Engineering, Scikit-learn, TensorFlow, PyTorch

## HONORS & AWARDS

- Recognized as a Top 3 Performing Research Consultant in the U.S. at WorldQuant 2024/07
- 2023 WorldQuant International Quant Championship: **Rank 2 in U.S.** 2023/07
- Publication on SID Symposium Digest of Technical Papers 2021/08
- Yu Liming Scholarship (Top 1% Students) 2020/09
- **2020 Mathematical Contest in Modeling (MCM)** - Meritorious Winner (Top 3%) 2020/04
- A-level Undergraduate Excellence Scholarship 2019/05