

YUNXIAO XIANG

(858) 539-6087 ■ xiang.yunxiao@nyu.edu ■ linkedin.com/in/yunxiaoxiang

EDUCATION

NEW YORK UNIVERSITY

New York, NY

M.S. in Mathematics in Finance; GPA: 3.7/4.0

December 2020

- **Coursework:** Factor model, martingales, VaR, Local volatility, Brownian motion, Black-Scholes, Black-Litterman, Threading, GA, PCA, Monte Carlo simulation, Greeks, Itô calculus, GARCH

UNIVERSITY OF CALIFORNIA, SAN DIEGO

La Jolla, CA

B.S. in Applied Mathematics; B.A. in Economics; GPA: 3.8/4.0

June 2019

- **Coursework:** Arbitrage pricing, hedging, Markowitz model, CAPM, CLT, SVD, ODE, Bootstrap, MLE, hypothesis testing, regression, ACF, ARIMA model, backtesting, heat and wave equation

EXPERIENCE

SHANGHAI BLACK WING ASSET CO., LTD.

Shanghai, China

Summer Investment Analyst

August 2018 – September 2018

- Initiated testing of trading system in illiquid commodity futures market; discovered 6% potential loss
- Analyzed results and attributed poor performance to low market volume and discreteness in prices
- Customized strategy for illiquid markets by attaching greater importance to bid-ask spread
- Implemented Shanghai ETF50 index and prices in prior 3 months to forecast upcoming trends
- Communicated with clients in non-technical language and improved their portfolio return by 5%

NEW YORK UNIVERSITY

New York, NY

Teaching Assistant

September 2019 – present

- Helped Math Finance student succeed by imparting salient concepts and effective learning strategies

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Trade Classification of TAQ data – Data Processing and Classifying in Python

- Wrote program to read and clean compressed 2008 TAQ data; visualized trade and best quote prices
- Computed implied bid-ask. spread of 10/15 data by Roll's Model; compared with historical spreads
- Applied quote test to classify 280,000 trades with one-second rule; substituted tick test upon failure of quote test; leveraged binary search to navigate between trade and quote dataset for high efficiency
- Implemented Glosten-Milgrom model to compute time series of implied portion of informed trader

Dimension Reduction of Covariance Matrix – PCA and Monte Carlo Simulation in Python

- Leveraged PCA to reduce dimension of covariance matrix of 20 years' interest rate from 9x9 to 3x3
- Selected 3 principal components that explained 95% variance to reconstruct covariance estimate
- Simulated Ornstein-Uhlenbeck process in Vasicek model based on reduced 3x3 covariance matrix
- Computed covariance matrix of simulated paths; compared with original matrix to validate PCA

Trading with Signal and Leverage – Object Oriented Trading System Design in Java

- Implemented trading system that inputs signal and target leverage to rebalance portfolio
- Leveraged observer pattern to subscribe prices from hypothetical exchange and updated PnL

UNIVERSITY OF CALIFORNIA, SAN DIEGO

La Jolla, CA

Deal Probability of Russian Commodities – NLP in Python and Multivariate Regression in R

- Leveraged NLP in Python to extract numerical variables from product descriptions and images
- Visualized 10,000 ad sample in R; constructed multivariate regression model after subset selection
- Tested model and found limitation on modeling skewed response variable distribution with over 50% zeroes; then fixed logistic regression model by converting non-zero deal probability to logistic value
- Suggested variables that significantly influence deal probability of goods based on dataset - price, presence of image, and capital letter count in description; created report to explain investigation

COMPUTER SKILLS/OTHER

Programming Languages: Python (4 years), Java (4 years), R (2 years), MATLAB (2 years), SQL (1 year)

Other Skills: Microsoft Office Word (10+ years), PowerPoint (8 years), Advanced Excel (3 years)

Languages: Mandarin (native), English (fluent), Japanese (elementary)