YUNXIAO XIANG

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EDUCATION

NEW YORK UNIVERSITY New York, NY
M.S. in Mathematics in Finance December 2020

- ***Coursework:*** Factor model, martingales, VaR, Markov chain, Brownian motion, Black-Scholes model, Black-Litterman, OOP, 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 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

- Help 50 students succeed by emphasizing salient concepts and imparting effective learning strategies
- Suggest how to improve based on students' weakness; have raised average grade by 30% in 10 weeks

PROJECTS

UNIVERSITY OF CALIFORNIA, SAN DIEGO La Jolla, CA

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

- Leveraged NLP in Python to extract numerical variables from product descriptions and images
- Visualized data in R and constructed multivariate regression model after subset selection
- Tested model and found its limitation on modeling skewed data with many zeros in response variable
- Fixed logistic regression model by converting numerical deal probability to logistic values
- 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

MMORPG Price Forecasting – Data Collection in Excel and Factor Modeling in Python

- Generated over 10% profit in each new patch release by identifying underpriced items before update
- Collected 3 years' daily prices from auction hall in DFO; visualized and analyzed price movements
- Quantified factors including players' needs, related event update, market volume, and rarity of item; subsequently constructed factor model to predict price movements after patch update and over time
- Validated model predictions with microeconomics market analysis; 95% CI achieved 90% accuracy

Time Series Forecasting – SARIMA Modeling in R

- Visualized data and plotted ACF to justify covariance stationarity; leveraged Ljung-Box test to check time dependency in quarterly data of interest-spread from 1960.Q1 to 2008.Q1
- Evaluated SARIMA models based on AIC, BIC, and test on residuals to fit given time series
- Simulated ARMA11 to predict upcoming trend; backtested to reveal limitation in long-run forecast

Patterns of Video Gaming – Bootstrapping in R

- Applied Bootstrapping, Pearson's chi-squared test, CLT and CART to survey data collected in 1994
- Suggested relaxing environment would improve popularity of UCB statistical lab by 8%

COMPUTER SKILLS/OTHER

Programming Languages: Java, Python, R (proficient); Matlab, SQL, Stata (intermediate)
Other Skills: Microsoft Office Word, Excel, PowerPoint, Photoshop
Languages: Mandarin (native), English (fluent), Japanese (elementary)