WENWEN (RITA) LIU

(651) 757-7552 // wl1792@nyu.edu // linkedin.com/in/wenwenrita-liu6

EDUCATION

Expected 12/23	**NEW YORK UNIVERSITY**	New York, NY

The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- *Coursework*: time-series analysis (expected), supervised and unsupervised learning, MVO, Black-Litterman, risk management, Fama-French, Black-Scholes, stochastic calculus, OOP

09/18 - 12/21	**MACALESTER COLLEGE**	Saint Paul, MN

B.A. in Applied Mathematics and Economics
- *Coursework:* financial securities, database management, econometrics, accounting, probability
- *Honors/Awards:* Honorable Mention in COMAP 2019 Mathematical Contest in Modeling

EXPERIENCE

06/23 - 08/23	**VOYA INVESTMENT MANAGEMENT**	New York, NY

Quantitative Research Intern (Python)
- Constructed linear regression, random forest, and AdaBoost models to predict sales growth of 2K+ companies using hiring records; created 5 alpha signals from the model predictions
- Evaluated signal performance by constructing long/short hedged portfolio (Sharpe ratio: 1.2) and rank IC (0.015); reduced signal's decay over 50% comparing to raw hiring signals
- Used K-means clustering on 24 job titles based on descriptions; reduced number of factors by 30%
- Presented research findings and recommendations to senior quantitative and fundamental managers

01/22 - 06/22	**TURNBERRY SOLUTIONS**	Saint Paul, MN

Data Analysis Associate (SQL and Python)
- Cleaned minute-level electricity data and used time series model to forecast peak usage; presented results in 3 Power BI reports to help client better understand and avoid power outages
- Designed and implemented relational database with 15 entities, using Amazon RDS; reduced query time 20% by choosing optimal indexes

02/21 - 06/21	**ZHENGREN QUANTITATIVE INVESTMENT MANAGEMENT**	Beijing, China

Quantitative Research Intern (Python)
- Conducted macro and fundamental research, yielding 30 alpha factors; implemented LASSO model to compare them and forecast stock returns; improved model performance by 20%
- Developed program using OOP to automatically display descriptive statistics and visualizations of variables; result: team identified 3 patterns to improve

01/20 - 05/20	**MINNESOTA HISTORICAL SOCIETY**	Saint Paul, MN

Data Analysis Intern (Python)
- Generated time series models to analyze effect of price changes on museum attendance, using Monte Carlo simulation; result: discovered simple way to increase profitability of ticket sales

PROJECTS

	NYU COURANT	New York, NY

02/23 - 05/23	**Temporary Impact of Trading and Covariance Estimation (Python)**

- Replicated Almgren-Chriss model using 3-month tick data; evaluated residuals using white test
- Estimated and evaluated covariance matrix 3 ways; found eigenvalue clipping was optimal

10/22 - 12/22	**Index Option Pricing Using Monte Carlo Simulation (Python)**

- Priced option by deriving stochastic equations and implementing Monte Carlo simulation on Nikkei-225 index, and exchange and LIBOR rates; calibrated parameters with 1-year daily data

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, R, Java, SQL, Stata, Linux, GitHub
Languages: English (fluent); Mandarin (native); German (conversational)
Certifications: CFA Level 2 candidate, Microsoft Power BI Data Analyst