RUIZE CHEN

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EDUCATION

Expected 12/23 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance

- ***Expected Coursework:*** object-oriented programming (Java), stochastic calculus, Brownian motion, Fama-French, Black-Scholes, risk and portfolio management, data-driven modeling

08/18 - 05/22 **UNIVERSITY OF ROCHESTER** Rochester, NY
B.A. in Mathematics and Statistics & B.S in Finance

- ***Coursework:*** linear algebra, ordinary differential equations, real analysis, stochastic processes, probability theory, linear regression, mean-variance optimization, corporate finance
- ***Honors/Awards:*** Dean's List (3 years), Cum Laude, Beta Gamma Sigma Honor Society

EXPERIENCE

06/21 - 08/21 **NORTHEAST SECURITIES** Shenzhen, China
(Top 25 Chinese securities firm)
Quantitative Research Intern

- Identified factors, from firm's database, that better predicted stock returns, by calculating information coefficients (i.e., correlation between factor value and stock yield)
- Constructed new stock selection factors using principal component and cluster analyses
- Applied Python to carry out web crawler for acquiring Chinese real estate data (e.g., construction area, floor area ratio) to support research on future housing trends; stored data using MongoDB
- Preprocessed acquired data with log transformation and performed exploratory data analysis and graphed time series plots to examine housing construction patterns over past 10 years

01/21 - 02/21 **INDUSTRIAL SECURITIES** Guangzhou, China
(Top 7 Chinese securities firm)
Quantitative Research Intern

- Employed quantitative stock selection methodology to healthcare stocks
- Reproduced factor construction process with random forest model to extract most influential ones; built linear model based on selected factors
- Achieved annualized returns of 28% and Sharpe ratio of 1.5 from derived factor model

PROJECTS

04/22 - 05/22 **UNIVERSITY OF ROCHESTER** Rochester, NY
Study on Factors Affecting Likelihood of Having Heart Disease (Python)

- Built logistic regression, random forest, and artificial neural network via NumPy, pandas, and scikit-learn packages to explore possible impact of factors such as blood pressure
- Evaluated performance of each model and achieved recall of 97%

04/21 - 05/21 **Optimal Risk and Return Portfolio Construction (Excel)**

- Collected 60 years' monthly returns of 3 types of Fama-French risky assets; measured their variances, covariances, and correlations to derive mean-variance efficient portfolios
- Created CAPM linear regression model in Excel; evaluated excess return rate and influential degree brought by the 3 Fama-French assets

03/21 - 04/21 **Analysis of Rochester Housing Market (R)**

- Performed linear regression, stepwise regression, ANOVA test, and Tukey's HSD test to examine how factors (e.g., architectural style, location) could affect Rochester home sales prices; utilized ggplot2 package to create statistical plots
- Derived best fit linear model with metrics including AIC and R-squared; constructed confidence and prediction intervals

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Java, Python, R, VBA, Excel, Tableau, MongoDB
Languages: English (fluent), Mandarin (native), Cantonese (native), German (intermediate)