GUOLI (MICHAEL) RAO

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EDUCATION

NEW YORK UNIVERSITY - The Courant Institute of Mathematical Sciences New York, NY
M.S. in Mathematics in Finance May 2021 - Dec 2022

- ***Coursework:*** Itô lemma, Fama-French, test-driven development, time series analysis, Brownian motion, Monte Carlo simulation, Black-Scholes, derivative pricing, Greeks, kernel regression methods, asset pricing, stochastic calculus, multiprocessing, volatility modeling, stress testing

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN Champaign, IL
B.S. in Applied Mathematics & B.S. in Statistics Aug 2017 - Dec 2020

- ***Coursework:*** abstract algebra, applied complex variables, abstract linear algebra, differential equations, real analysis, non-Euclidean geometry, statistics and probability, corporate finance, ODEs, deep learning, applied regression and design, cross-validation, PCA, CAPM
- ***Achievement:*** 3-year Dean's List, Highest Distinction in Statistics, Distinction in Mathematics

PROFESSIONAL EXPERIENCE

DINGXI ASSET MANAGEMENT CO., LTD. Guangzhou, China
Quantitative Analysis Intern Sep 2020 - Dec 2020

- Analyzed 100 A-share stocks based on weekly rate of return via K-Means Method to improve portfolio allocation
- Classified trading patterns based on volatility and company capitalization to inform investment decisions
- Utilized root-mean square error and mean-variance principle to evaluate historical portfolio performance

MAIKE FUTURES CO., LTD. Shanghai, China
Asset Management Intern Jun 2020 - Aug 2020

- Examined sell-side research reports with emphasis on monetary policy to exploit trading opportunities
- Improvised company dataset based on client's investment risk appetite to improve data usability using SQL

ZHONG DE SECURITIES CO., LTD. Beijing, China
Fixed Income Intern Jun 2019 - Aug 2019

- Facilitated the issuance of three government bonds at Beijing with face value over 150 million by drafting and reviewing the prospectus
- Conducted due diligence through company onsite reviewing and communicated with clients proactively
- Fitted regression models to study bond's Macaulay duration with similar term to maturity using interest rate

PROJECTS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN Champaign, IL
Christmas Song Lyrics Generation with Python Sep 2020 - Dec 2020

- Utilized long short-term memory unit for recurrent neural network to complete the lyric generation process; Achieved training accuracy of 0.8034 with 50 epochs
- Compared efficiency of modeling by gated recurrent unit and long short-term memory

Hands Free Super Mario Bro using Python Sep 2020 - Oct 2020

- Implemented Python packages to reduce dimension of data frames by converting them from red, green, and blue to black and white; Shortened the model training time by two folds

SKILLS & INTERESTS

Programming Languages: Python, R/R studio, Java, MySQL, SAS, MATLAB, HTML
Affiliations/Certifications: CFA Level II Candidate
Languages: Mandarin (native), English (fluent)