PENG LIU

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA
Master of Finance, Financial Engineering concentration | GPA 5.0/5.0 2024 - Present
- Anticipated Courses: Financial Engineering, Advanced Financial Mathematics, Financial Markets, Machine Learning

COLUMBIA UNIVERSITY New York, NY
Dual Degree Bachelor of Arts, Mathematics | GPA 4.15/4.0, summa cum laude 2022 - 2024
- Honors: Member of Phi Beta Kappa, Dean's List All Semesters, Member of Honor Society
- Courses: Discrete Time Models in Finance, Statistical Methods in Finance, Macroeconomics, PDE, Time Series Analysis
- Summer 2023 engaged in full-time coursework to accelerate graduation timeline (4 years instead of 5 years)

CITY UNIVERSITY OF HONG KONG Hong Kong SAR, China
Dual Degree Bachelor of Science, Computing Mathematics | GPA 4.0/4.0, summa cum laude 2020 - 2024
- Honors: HK Tiger (top 10% student leader), Dean's List All Semesters, CityU Scholarship, Dr Herman Hu Scholarship

EXPERIENCE

COLUMBIA UNIVERSITY New York, NY
Independent Project Leader Jan-Apr 2024
- Project Name: "Comparative Analysis of Volatility Forecasting Models for Options Trading Strategies"
- Modeled future volatility of AAPL stock leveraging historical weekly stock price and options data for AAPL in Python, employing models such as GARCH, ARCH, Implied Volatility, and HAR, improving model integration accuracy by 18%
- Developed and implemented options trading strategies, including long/short straddle/strangle and Covered Call Writing, with optimal model selection generating a 15% increase in the expected return of these strategies

COLUMBIA UNIVERSITY New York, NY
Grader for STAT 2103 - Applied Linear Regression Sep-Dec 2023
- Held weekly office hours, providing 50 students with one-on-one clarification with course materials and assignments
- Developed more than 200 exercise questions and set up mock tests to help students get well-prepared for exams and enhance their learning experience, with 100% of students rated "satisfactory" or above on my teaching assistant work

SHENZHEN DSHY INVESTMENT MANAGEMENT LIMITED Shenzhen, China
Quantitative Research Intern Jun-Aug 2022
- Devised an innovative Value at Risk (VaR) model by creatively incorporating higher statistical moments to account for volatile market dynamics induced by the pandemic, adjusting the standard VaR model to capture better tail risk and extreme events and reducing the probability of significant portfolio losses by 15%
- Utilized correlation analysis, principal component analysis and Python to analyze historical market indices and economic indicators, identified critical trends and patterns in risk exposure and enhanced risk assessment accuracy by 17%.
- Created 10 comprehensive risk assessment reports providing insights into risk exposure, potential impact on portfolio value, and recommended adjustments to internal stakeholders

EFUND INTERNATIONAL LIMITED Hong Kong SAR, China
Quantitative Risk Intern Jun-Aug 2021
- Executed backtesting on portfolio performance using historical market data, presenting actionable insights to senior risk managers to facilitate informed investment decisions, resulting in an 8% average improvement in portfolio returns
- Collected, cleaned, and organized financial data from various sources using Microsoft Excel to support risk assessment procedures, contributing to a 30% reduction in data-related errors
- Coordinated and communicated with Marketing, Portfolio Management and Compliance Departments on constructing clients' portfolios by conducting regular meetings to promote working efficiency; 80% of tasks were completed more than seven days ahead of deadlines

ADDITIONAL INFORMATION

- Languages: English - (Fluent), Chinese - Mandarin (Native)
- Computer Programming: Python, R, Java, Bloomberg, MATLAB, Microsoft Excel
- Interests: Volleyball, Hiking, Swimming, Model United Nations