YUE (RAY) HU

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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

- ***Coursework:*** Monte Carlo, derivatives pricing & hedging, energy derivatives trading, interest rate & FX model, Black-Scholes, time series analysis, Fourier analysis, arbitrage pricing theory

09/17 - 04/22 **UNIVERSITY OF WATERLOO** Waterloo, Canada
B.Math. in Mathematical Finance

- ***Coursework:*** linear algebra, partial differential equations, Bayesian statistics, probability theory, Itô's lemma, CAPM, options, data structure (Python), stochastic processes, linear regression
- ***Honors:*** Dean's Honors (top 5% of GPA in department), President's Scholarship

EXPERIENCE

06/23 - Present **NUMERIX** New York, NY
Financial Engineering Intern (Python, Excel)

- Developed FX and equity pricers, implementing pricing models (Black, Heston, Bates, Dupire)
- Replicated algorithms in academic research on wide array of topics (e.g., American Monte Carlo, corridor variance swaps, FX swaps, Brownian bridge for barrier option, BGK model)
- Programmed forward and backward Monte Carlo scripts for financial instruments (e.g., vanilla, Cliquet, barrier, seasoned Asian, forward-starting options) using Excel and Python SDKs

03/23 - 05/23 **GROW INVESTMENT GROUP** Shanghai, China (remote)
Quantitative Strategist Intern (Python, Excel)

- Conducted research to identify key parameters that signaled inflection points in equity strategies, enabling optimized decision-making in portfolio management
- Analyzed institutional investors' preferences (e.g., with momentum, number of reports, volume) for multiple industries; compared present to historical preferences, driving investment decisions
- Created valuation method that assessed performance of over 3K PMs; actively identified top 10, providing long/short suggestions based on PMs' abilities in industry rotation strategy

03/22 - 04/22 **CITIC SECURITIES** Shenzhen, China (remote)
Equity Research Analyst Intern

- Analyzed target companies' financial statements and industries' business cycles and future trends
- Made predictions in new-generation education industry (e.g., AI and new vocational learning)

09/21 - 12/21 **AVIVA CANADA**
(2nd largest property and casualty insurance company in Canada) Toronto, Canada
Actuarial Intern, Group and High Net Worth (Python, Excel)

- Developed credit analysis for insurance brokers to determine whether to apply more risk factors
- Improved efficiency of pricing tools built in Excel by 30% through automation and optimization
- Consolidated group case database in Python, with over 10K observations and 500K features
- Drafted tier analysis for top corporate entities; prepared and presented rate adjustment strategies

PROJECTS

08/21 - 10/21 **ARTIFICIAL INTELLIGENCE FINANCE INSTITUTE (AIFI)** New York, NY
Impact of COVID-19 on Perth Housing Prices: A Machine Learning Perspective (Python)

- Conducted statistical analysis and model validation with TensorFlow and scikit-learn
- Identified several new and original parameters after testing hundreds of transformed ones
- Applied CatBoost regression for price forecasting, and difference-in-difference (DID) methods for impact evaluation
- Wrote manuscript (independently) that was published by 7th International Conference on Financial Innovation and Economic Development (2022)

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, Java, MATLAB, SQL, R, C#
Honors: Bronze Award, Canadian Open Mathematics Challenge; got invited to Canadian Olympiad Math Training Team
Interest: China National Flight Simulation Competition (4th place out of 1K+)