LAURENCE JIN

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EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS — New York, NY
Master of Science in Computational Finance - MSCF — ***QPA: 4.12 / 4.33*** — 12/25

- Relevant Coursework: Stochastic Calculus, Machine Learning, Financial Computing (Python, C++) & Optimization, Simulation Methods for Option Pricing

THE CHINESE UNIVERSITY OF HONG KONG — Hong Kong
B.Sc. in Quantitative Finance and Risk Management Science — ***First Class Honors*** — 07/24

- Major GPA: 3.725 / 4.000 (Minor in Statistics)
- Relevant Coursework: Stochastic Modelling & Simulations, Stochastic Processes, Statistical Computing & Inference, Time Series, Advanced Derivatives, Data Structures & Algorithms, Database Systems (SQL)
- Honors and Awards: Department of Statistics Scholarships (top 2 in RMSC major), Dean's List, Master's List

MCGILL UNIVERSITY — Montreal, QC
Semester Exchange Student, Faculty of Science — ***Term GPA: 4.00 / 4.00*** — 05/23

- Relevant Coursework: Matrix Numerical Analysis, Statistical Learning, Ordinary Differential Equations

EXPERIENCE

MILLENNIUM MANAGEMENT LLC — New York, NY
Quantitative Research Intern, Central Liquidity Strategies — 06/25 - 08/25

- Engineered implied volatility-driven feature (volatility percentage shock) with KDB+/Q and applied cross-sectional quantile analysis on PnL (post-trade analysis) to evaluate predictive signals around pending events
- Validated the predictive strength of the feature with significant t-test statistics on the quantile spreads, and achieved a Sharpe ratio of 1.3 in the high-low PnL buckets
- Collaborated with senior researchers to refine trading algorithms based on markup and slippage analysis, improving execution strategies through premium adjustments or expedited unwinding, and reducing PnL loss by 8 bps
- Implemented a heterogeneous autoregressive (HAR) model with implied volatility augmentation to forecast realized volatility of index ETFs, improving the R^2 by 20% over the baseline model during volatile market conditions

DYMON ASIA CAPITAL (HK) LTD. (Leading hedge fund in Asia with US$5.7 billion AUM) — Hong Kong
Quantitative Research Intern, MSIF-Portfolio Management Department — 08/23 - 12/23

- Designed efficient SQL database schemas and optimized query performance to ensure seamless data retrieval
- Developed web scraping tools (Selenium) to automate data extraction; facilitated data accuracy and consistency

PRUDENTIAL HOLDINGS LTD. (Global leading insurance and asset management company) — Hong Kong
Actuarial Intern, Asset / Liability Management (Group Investment) — 05/23 - 08/23

- Generated stochastic simulation sets under risk-neutral scenarios; deeply involved in data collection, parameters refinement and testing to meet calibration targets
- Assisted in research and further development of modelling process, enhanced daily workflow with Python automation

PROJECTS

QUANTITATIVE PORTFOLIO CONSTRUCTION & OPTIMIZATION — 01/24 - 04/24

- Integrated Bayesian shrinkage, Black-Litterman model and multi-factor models in re-evaluating posterior predictive moments of stock returns, reduced estimation errors by optimizing balance between bias and variance
- Backtested portfolio performance via Backtrader and QuantStats (Python packages), achieved a Sharpe ratio of 1.1 and a CAGR of 15.89% over a four-year period

STRUCTURED PRODUCTS PRICING (Equity-linked note) — 09/23 - 12/23

- Derived and interpolated the Black-Scholes implied volatility surfaces with real option quotes from Bloomberg, implemented Dupire's equation and Gatheral's method to calibrate local volatility surfaces for simulation purposes
- Developed, restructured and optimized Python algorithms for numerical methods in matrix computations and differentiation, decreased program's calculation time by at least 50%

ADDITIONAL INFORMATION

- **Software:** Experienced with Bloomberg, GitHub, SQL Server, Visual Studio Code, Microsoft Azure
- **Programming:** Python (OOP, data analysis & visualization), KDB+/Q, C++, LaTeX, R, Excel VBA, Linux Command
- **Interests:** Ping-Pong, Traveling, Photography, Video Games