Yuao Peng

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, **GPA: 3.956** **Expected Dec. 2024**

Nanjing University, Business School, Nanjing, China
Bachelor of Economics in Finance**, GPA: 4.47/5.0** **June 2023**

Selected Coursework: Stochastic Calculus, Derivative Securities, Machine Learning, Reinforcement Learning, Optimization, Time Series Analysis, Numerical Methods, Monte Carlo Simulation, Data Structures and Algorithms, Econometrics

SKILLS

Technical: Python (PyTorch, NumPy, pandas), C++, R, SQL, Excel VBA

EXPERIENCE

Quantitative Developer Intern, *Beacon Platform Inc.*, New York, NY **June to Aug. 2024**

- Developed a pricing model that utilizes the cheapest-to-deliver (CTD) collateral curve for cashflow discounting, enabling CTD curve construction through comparison of short rates at fixed intervals and a shortcut method by evaluating short rates only at the union of knot dates for flat-forward interpolated curves.
- Migrated bond instruments pricing environment and rate curves bootstrapping setups from deprecated Python scripts to YAML configuration files for enhanced maintainability and clarity.
- Authored client-facing technical documentation for FX variance swaps, detailing the Beacon implementation of the static replication pricing method for the instrument.
- Implemented an extractor class to fetch raw time series of quoted spreads of credit default swaps; co-designed an extendable unit test case to facilitate testing of extractor classes for various kinds of credit default swaps spreads.

Quantitative Research Intern, *Jewellerywater Asset Management Co., Ltd.*, Shanghai, China **Sep. 2022 to Jan. 2023**

- Developed a Markowitz model in Python to determine optimal weights of funds with different strategies in a fund of funds (FOF); analyzed the risk diversification effect and visualized it by plotting the efficient frontiers.
- Back-tested a market neutral strategy; measured strategy performance in terms of Sharpe ratio, max drawdown, etc., and simulated daily trades for real-market performance analysis.
- Extracted financial data from Wind terminal; conducted correlation analysis between funds, stock indices, and macro indicators; selected well-performing and low-correlated funds to aid the construction of FOF.

Account Manager Intern, *Ping An Bank Co., Ltd.*, Nanjing, China **Jan. to Mar. 2022**

- Assisted account managers in conducting due diligence, structuring loans, and handling discount notes and collaterals for real estate firms; engaged in post-loan management and computed key financial indicators to assess loan risks.

ACADEMIC PROJECTS

Deep Learning for Portfolio Optimization, *Cornell University*, Ithaca, NY **Mar. to May 2024**

- Constructed a portfolio of four ETFs with weights dynamically adjusted according to the softmax output of a convolutional neural network; achieved an annualized Sharpe ratio of 2.3 during back-testing.

Movie Review Preference Analysis, *Cornell University*, Ithaca, NY **Nov. to Dec. 2023**

- Built a 4-layer neural network with weight-decay and dropout using PyTorch to predict the preference of pairs of movie reviews; achieved 88% accuracy in identifying the more positive review in each pair.

Thesis: Reliance on Public Information and Funds' Performance, *Nanjing University*, Nanjing, China **Feb. to June 2023**

- Developed a metric for funds' reliance on public information by analyzing funds' holdings alongside sell-side analysts' ratings; processed 2GB of raw data into panel data of 360 Chinese equity mutual funds (2014-2021); conducted a fixed-effect regression with R, revealing the inverse causal effect of public information reliance on performance.

LEADERSHIP EXPERIENCE

Teaching Assistant of *Statistical Mining I*, *Cornell University*, Ithaca, NY **Jan. to May 2024**

- Assisted the professor in designing homework assignments and delivering lectures; led weekly lab sessions.

Associate Concertmaster, *Nanjing University Symphony Orchestra*, Nanjing, China **Sep. 2019 to June 2023**

- Led rehearsals and daily operations of the first violins section; hosted a Chamber Music Concert open to the public.

ACTIVITIES/INTERESTS

Violin; soccer; badminton; ping pong