

# YUJING (EMILY) ZHANG

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## EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS

Pittsburgh, PA

*Master of Science in Computational Finance – MSCF*

**GRE Quant: 170/170**

08/24 – 12/25

- Upcoming Coursework: Simulation for Option Pricing, Market Microstructure, Algorithm Trading, Machine Learning

UNIVERSITY OF INTERNATIONAL BUSINESS AND ECONOMICS

Beijing, China

*Bachelor of Economics in Finance*

**GPA: 3.91/4.00, Dean's List**

09/20 – 07/24

- Coursework: Calculus, Linear Algebra, Probability & Statistics, Regression, Data Structure & Algorithm, Fixed Income
- Honors: China National Scholarship (0.2%), 1st-Class Scholarship (5%, 4x), Chinese Mathematics Competition 2nd Prize

COLUMBIA UNIVERSITY

New York, NY

*Visiting Student in Financial Engineering*

**GPA: 4.13/4.33**

09/22 – 12/22

- Coursework: Stochastic Calculus, Stochastic Processes, Time-series Analysis, ODE, Numerical Methods, Option Pricing

## EXPERIENCE

LINGJUN INVESTMENT, LLP (Leading quant hedge fund with \$8.5 billion AUM)

Beijing, China

*Quantitative Research Intern – Systematic Equity Trading*

05/24 – 07/24

- Alternative Factors:** Identified retail investor behavior affecting stock prices; integrated alternative data with fundamental data to construct daily-frequency alphas yielding L/S returns > 25%, Sharpe Ratio > 5; adopted by company's factor library
- Feature Engineering:** Analyzed financial growth and anomalies using hierarchical scoring and regression; enhanced 20+ fundamental alphas, reducing correlation and achieving out-of-sample long-side excess returns > 15% and Sharpe Ratio > 3

INTERNATIONAL DIGITAL ECONOMY ACADEMY (National engineering research lab)

Shenzhen, China

*Quantitative Research Intern – Option Pricing*

10/23 – 01/24

- Exotics Pricing:** Innovated path-dependent exotics pricing model using eigen decomposition and Fokker-Planck equation; optimized coupon calculation algorithm to linear time complexity, reducing pricing time from 34s to 8s
- Numerical Optimization:** Compared Finite Difference and numerical quadrature for convergence and speed; conducted moment matching utilizing Kullback-Leibler divergence and Lagrange multiplier, improving precision from 1e-4 to 1e-7
- Front-end Visualization:** Executed unit tests for back-testing platform; transformed it into desktop app employing HTML, CSS, JavaScript, and Electron, enabling real-time pricing and back-testing interactions with copyright registration

CHINA INTERNATIONAL CAPITAL CORPORATION (CICC)

Beijing, China

*FICC Derivatives & Solutions Intern*

06/23 – 08/23

- CDS Pricing:** Revolutionized CDS pricing model with integration methods under limited data conditions; estimated default probability by bootstrapping yield curve and constructing density coefficient; presented findings to Managing Directors
- Hedging Strategies:** Conducted market research on market dynamics; generated bespoke commodities hedging solutions in options, futures, TRS; collaborated with sales on contract negotiation, achieving high client satisfaction

INDUSTRIAL SECURITIES

Beijing, China

*OTC Equity Derivatives Structuring Intern*

03/23 – 05/23

- Exotics Structuring:** Applied Finite Difference methods and Monte Carlo simulations to decompose and structure diverse snowball options (Autocallables); optimized and customized product designs to increase client profitability
- Risk Stress-Testing:** Facilitated VaR-based stress tests and margin calculation for structured Delta One products; automated risk analysis scenarios using VBA, enhancing process automation and risk assessment efficiency

## RESEARCH/PROJECTS

UBS 2024 FINANCE CHALLENGE – FINANCIAL DATA ENGINEERS (Second Place Winner, Rank: 2/500+)

05/24 – 06/24

- Analyzed trends in US Treasury, S&P 500, and VIX; developed LIBOR market model; priced range-bearing CMS products
- Designed and priced guaranteed Autocallables harnessing Padé approximation; presented findings to UBS senior managers

INTERDISCIPLINARY CONTEST IN MODELING (Finalist Winner, Top 2%)

02/22 – 03/22

- Envisioned three potential asteroid mining futures based on game theory; established global equity Gini index model leveraging Analytic Hierarchy Process and Entropy Weighting Process collaboratively; initiated policy recommendations

## ADDITIONAL INFORMATION

**Programming Languages:** Python, Linux Operating Systems (Docker, Git, Shell), C++, JavaScript, HTML, CSS

**Interests:** Hiking, Skiing, Ballet, Online Store Operating, Fortune Telling

**Languages:** English (fluent), Mandarin (native), Italian (basic)