



NYU

COURANT INSTITUTE SCHOOL OF MATHEMATICS,
COMPUTING, AND DATA SCIENCE

SEPTEMBER 2026

RESUME BOOK

FULL-TIME CANDIDATES

MATHEMATICS IN FINANCE

Master of Science Program

DEAR COLLEAGUE,

We are pleased to share the resumes of the MS Mathematics in Finance candidates at NYU Courant who are available for full-time positions.

Our students enter front-office roles, such as trading and risk management, both on the buy side and the sell side. Their computing, quantitative modeling, and machine learning skills, as well as their hands-on practical experience, fuel their productivity from Day One.

Our curriculum is dynamic and rigorous. For example, the first-semester investment course does not end with CAPM and APT but is a serious data-driven course that examines the statistical principles and practical pitfalls of covariance matrix estimation and portfolio construction. As part of our core curriculum, students learn current computational and data science tools used in finance. Our advanced electives include cutting-edge topics in alternative data, algorithmic trading, computational statistics, derivatives pricing, financial machine learning, risk and portfolio management, and XVA.

Our instructors are senior industry professionals and full-time faculty at Courant, home to one of the top-ranked mathematics departments in the world, especially known for its work in applied and computational mathematics.

Learn more about our program and faculty on our website at math-finance.cims.nyu.edu. We welcome you to reach out to us with questions.

Sincerely yours,

Mike O'Neil
DIRECTOR

Leif Anderson
INDUSTRY ADVISOR

THE CURRICULUM HAS FOUR MAIN COMPONENTS

For more information about the program curriculum and course descriptions, visit math-finance.cims.nyu.edu/academics/

01. FINANCIAL THEORY, STATISTICS, AND FINANCIAL DATA SCIENCE

These courses form the core of the program, covering topics ranging from equilibrium theory, Black-Scholes, Heath-Jarrow-Morton, linear regressions, covariance matrix estimation to modern machine learning techniques and how they are used in quantitative finance.

02. PRACTICAL FINANCIAL APPLICATIONS

These classes are taught by industry specialists from prominent Wall Street firms. They emphasize the practical aspects of quantitative finance, drawing on the instructor's subject matter experience and expertise.

03. MATHEMATICAL TOOLS

This component provides appropriate mathematical background in areas like stochastic calculus and partial differential equations.

04. COMPUTATIONAL SKILLS

These classes provide students with a broad range of software skills in Java and Python, and facility with computational methods such as optimization, Monte Carlo simulation, EM-type algorithms and the numerical solution of partial differential equations.

PRACTICAL TRAINING

In addition to coursework, the program emphasizes practical experience. All students do a capstone project (the Project and Presentation course), mentored by finance professionals. Most full-time students do internships during the summer between their second and third semesters.

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Completed Coursework:** stochastic calculus and dynamic asset pricing, interest rates and FX models, scientific computing in finance, advanced risk management
 - **Expected Coursework:** time series analysis, statistical arbitrage, and financial data science
- 08/15 - 05/20 **LA SALLE UNIVERSITY** Bogotá, Colombia
B.S. in Economics
- **Coursework:** capital markets, time series analysis, economic growth, financial mathematics
 - **Honors/Awards:** Full scholarship (*Ser Pilo Paga*), ranked 2nd out of 42 in graduating class

EXPERIENCE

- 06/26 - 08/26 **J.P. MORGAN ASSET MANAGEMENT** New York, NY
Summer Analyst - Equity Trading Analytics
- Designed and built a CVaR engine for US Equities desk, modeling probability and severity of tail-loss events as core of transaction-cost optimization problem
 - Estimated tail-event probability using double ML for causal treatment-effect inference combined with bootstrapping, delivering average 4bps improvement per trade on holdout data
- 06/21 - 08/25 **DAVIVIENDA BANK** Bogotá, Colombia
(Leading Colombian financial institution, \$47B AUM)
- 04/23 - 08/25 **Quantitative Research Lead - Financial Risk & AI Solutions (Python, Google Cloud Platform)**
- Built multiprocessing, cloud-based IRRBB engine to forecast loan behavior and run stress-testing scenarios across policy variations for \$1.7B portfolio
 - Formulated long-term integration plan combining credit risk, market risk, and IRRBB into bank's enterprise risk framework
 - Built real-time collections optimization engine using hyperparameter-tuned ML/DL models, generating \$30M in savings from \$60K investment (462x return)
 - Led team of 4 across KYC automation, rule-based marketing engines, and OCR/LLM-based credit evaluation, presenting results to CRO
- 07/22 - 04/23 **Quantitative Research - Financial Risk & AI Solutions (Python, Google Cloud Platform)**
- Designed knowledge database on GCP to structure and index unstructured documents, serving as retrieval backend for internal AI agents
 - Standardized extraction and integration of public data sources into reusable data services, enabling scalable use across risk analytics teams
- 12/21 - 07/22 **Data Scientist - Model Validation (Dataiku)**
- Evaluated and validated machine learning models for credit scoring, fraud detection, and business analytics applications as part of bank's model risk governance process
 - Implemented ML explainability methodologies to support bank's evolving analytics strategy

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python (fluent), C++ (solid foundation), JavaScript, SQL

Languages: English (fluent), Spanish (native)

Affiliations/Certifications: C++ Programming for Financial Engineering from QUANTNET; Financial Market Analysis from IMF; Financial Management, Applied Data Science, and Machine Learning from Coursera

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** **New York, NY**
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Coursework:** Market microstructure, linear regression, Black-Scholes model, stochastic processes, risk and portfolio management, machine learning, dynamic asset pricing, financial securities and markets, computational statistics
- 09/21 - 06/25 **WUHAN UNIVERSITY** **Wuhan, China**
B.E. in Finance and B.S. in Mathematics and Applied Mathematics
- **Coursework:** corporate finance, econometrics, investment, linear algebra, ordinary differential equations, numeric analysis, Bayesian statistics, law of large numbers, calculus
 - **Honors:** 2021 and 2022 Outstanding Student (top 5%), Honorary Graduate of Hongyi Institute, Second Prize in National Mathematics Competition for College Students of China

EXPERIENCE

- 07/24 - 10/24 **CHINA MERCHANTS SECURITIES** **Shanghai, China**
Quantitative Research Intern (Python, R)
- Conducted independent research analyzing correlations among index constituents and alpha generation in enhanced funds, identified theoretical-consistent patterns, and reported deviations
 - Performed comprehensive bond data quality analysis across more than 200 fixed-income securities, evaluating anomalies in ChinaBond valuations and proposing improvement plans
 - Collaborated on CAMPISI attribution analysis for simulated portfolios of embedded option bonds, contributing to performance impact assessment
 - Analyzed relationship between active equity fund size/shares and A-share market indices across 5 years; independently identified weak negative correlation (t-stat=1.5)
- 06/23 - 08/23 **TREND CONSULTING** **Shanghai, China**
(A leading Chinese management consulting firm focusing on healthcare)
Intern in Research/Investment/Data Analysis (Python)
- Processed 5 years of Guangdong Health Yearbook data, extracting records with image-to-Excel conversion and 2D transformation, outputting customized tables
 - Developed Python heatmap visualizations for provincial health metrics
 - Researched medical payment reforms (DRG/DIP) and synthesized academician profiles

PROJECTS

- 01/23 - 03/23 **LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE** **London, UK (Remote)**
Research on Option Pricing and Quantitative Change Based on Monte Carlo (Python)
- Led 3-member team to master advanced variation-reduction methods, and proposed Taylor expansion approximation method to indefinite integral
 - Conducted independent research on lookback option pricing, covering theoretical derivations, PDE-based methods, and Monte Carlo simulations to analyze and compare pricing approaches
- 11/22 - 12/22 **WUHAN UNIVERSITY** **Wuhan, China**
Cryptocurrency Momentum Strategy Project (Python)
- Developed rank momentum factor strategy for 4 types of cryptocurrency, backtesting 2021 market data via vectorized NumPy operations
 - Validated strategy feasibility through multi-dimensional performance diagnostics

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, MATLAB, SQL, Stata, R

Languages: English (fluent); Mandarin (native)

Affiliation/Certification: Financial Risk Manager (FRM) Part I Passed

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
M.S. in Mathematics in Finance
• **Coursework:** object-oriented programming, stochastic, time-series, machine learning
- 09/22 - 06/25 **UNIVERSITY OF WARWICK** Coventry, UK
B.Sc (Hons) in Mathematics
• **Coursework:** real analysis, numerical methods, machine learning, convex optimization, financial mathematics, stochastic calculus, probability, statistics, calculus, linear algebra

EXPERIENCE

- 07/25 - Present **INNOVATION AI** San Jose, CA
Quantitative Research Intern (Python)
• Built Python-based data pipeline to collect, clean, normalize, and store 15K macroeconomic and sector ETF time series in SQLite, enabling efficient access for strategy development
• Engineered ML models (random forest, XGBoost) to predict relative sector returns using technical indicators (e.g., RSI, MACD), optimizing hyperparameters via cross-validation
• Designed sector rotation strategy combining model-predicted rankings and Sharpe ratio filtering; integrated mean-variance optimization for risk-controlled allocation
• Constructed full backtest engine with turnover tracking, drawdown statistics, and regime-aware signal performance evaluation, demonstrating outperformance over passive benchmarks
- 07/23 - 09/23 **DAHUA XIN'AN ASSET** Shenzhen, China
Summer Analyst
• Enhanced equity research by integrating sector-level financial KPIs, macroeconomic indicators, and sentiment data into Excel- and Python-based DCF valuation models for consumer sector
• Conducted cross-market macro analysis of Japan vs. China, using time series of GDP, CPI, and sectoral returns; visualized trends via Tableau and Python (Matplotlib/Seaborn)
• Delivered actionable investment proposals supported by factor-based peer comparisons and scenario testing, aligning top-down research insights with portfolio strategy discussions

PROJECTS

- 07/24 - 09/24 **Equity Trading Strategy and Backtest using LLM (Python)** Coventry, UK
• Built web-scraping pipeline to collect earnings calls and macro news, fine-tuned FinBERT model on labeled financial texts to extract firm- and sector-level sentiment factors
• Constructed daily sentiment scores as inputs to mean-reversion and momentum strategies, achieving 0.24 Sharpe ratio uplift during backtests with dynamic volatility-adjusted sizing
• Assessed regime sensitivity and robustness across sectors; validated signal orthogonality via cross-sectional regressions, and performed stress testing to ensure factor robustness
- 01/24 - 05/24 **Option Pricing using Stochastic and Monte Carlo Simulation (Python)** Coventry, UK
• Authored research essay on stochastic models in financial mathematics, deriving Black-Scholes PDE via Ito's Lemma and risk-neutral pricing framework
• Modeled BTC options using geometric Brownian motion and implemented Monte Carlo simulations to compute Greeks (delta, gamma, vega)
• Analyzed gamma scalping for dynamic hedging, evaluating trade P&L across skewed volatility surfaces and quantifying rebalancing frequency and execution risk under real-time market

COMPUTATIONAL SKILLS / OTHER

Languages: English (fluent), Mandarin (Native)

Programming Languages: Python, MySQL, VBA, Advanced Excel Functions

Modeling: Regression, Time Series, Monte Carlo Simulation, Machine Learning, Optimization

Finance: Option Pricing, Financial Risk Management, Backtesting

ZUO CHEN

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Expected Coursework:** risk and portfolio management, stochastic calculus, dynamic asset pricing, machine learning and computational statistics
- 08/21 - 05/25 **UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN** Champaign, IL
B.S. in Computer Science & Mathematics
- **Coursework:** probability and statistics, linear algebra, algorithms, differential equations, machine learning, real analysis, numerical methods, graph theory, data structures, system programming
 - **Honors/Awards:** Highest Distinction MATH/CS, Dean's list

EXPERIENCE

- 06/25 - 08/25 **LATIOS** Beijing, China
(AI-powered efficiency tools startup)
Software Engineer Intern (Python, TypeScript)
- Designed and implemented multi-channel payment system, integrating both Stripe and WeChat Pay APIs to support subscriptions across different user segments
 - Engineered robust server-side logic and webhook handlers to process payments and manage user subscriptions, securely handling more than 500 transactions in first month of launch
 - Developed fully automated and scalable content generation pipeline using Python and Next.js to transform curated podcast lists into structured, SEO-driven blog pages
 - Deployed the system to generate more than 1,000 unique pages for popular podcast episodes, cutting manual workload by 90% and boosting content throughput 5x
 - Contributed to 10x increase in indexed pages and 80% uplift in organic traffic by publishing high-volume, SEO-optimized content at scale
- 06/24 - 08/24 **CAPGO.AI** Beijing, China
(Programmatic SEO startup)
Generative AI Intern (Python, JavaScript)
- Developed Google Sheets chatbot that converts natural-language requests into fully formatted spreadsheets, auto-building tables and financial models; slashes manual prep time by 90%
 - Built Next.js chat interface that auto-generates and deploys fully functional, general-purpose websites via AI-written code and images within 3 min, cutting dev turnaround 85%
 - Designed and refined comprehensive prompt frameworks that produce executable, visually polished webpages / spreadsheets, reducing post-edit time by 70% and keeping failures under 1%
 - Integrated spreadsheet chatbot and web generator into client-facing SaaS—launch hit #2 Product of the Day on Product Hunt
 - Optimized generative-AI pipelines for programmatic SEO and market research; scaled content production 4x and boosted research throughput 3x

PROJECT

- 02/25 - 04/25 **UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN** Champaign, IL
Stocks Similarity Analysis for Statistical Arbitrage and Portfolio Construction (Python)
- Developed two-stage pipeline to identify statistically meaningful relationships between stocks by combining large language model (LLM) reasoning with time series analysis
 - Used LLMs to pre-filter fundamentally similar stock pairs (e.g., sector, model), then applied time series techniques to identify potentially cointegrated pairs with stable mean-reverting behavior
 - Designed framework to support downstream applications such as statistical arbitrage (pair trading), basket construction, and diversified portfolio optimization

COMPUTATIONAL SKILLS / OTHER

Programming Languages: C++, C, Python, Java, TypeScript, JavaScript

Languages: English (fluent), Mandarin (native)

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Coursework:** singular value decomposition, boosting, bagging, numerical optimization, Brownian motion, Ito integral, Girsanov's theorem, stochastic calculus techniques
- 06/24 **NEW YORK UNIVERSITY** New York, NY
B.A. in Mathematics
- **Coursework:** ordinary differential equations, partial differential equations, Runge-Kutta methods, Gaussian quadrature, Black-Scholes-Merton model, risk-neutral dynamics
 - **Honors/Awards:** Dean's list (2020-2023)

EXPERIENCE

- 03/24 - 07/25 **WUYIGE CERTIFIED PUBLIC ACCOUNTANTS LLP** Shanghai, China
Assistant Auditor (Dinstar)
- Created audit reports independently for top Chinese asset management firm's products
 - Conducted annual audit assessments and compiled reports for parent company, subsidiaries, and their consolidated data
- 07/23 - 09/23 **NEWDO VENTURE** Shanghai, China (Remote)
Investment Assistant Intern
- Created comprehensive summary of AI industry, mapping out company distribution, identifying leading enterprises, and evaluating core technological advantages
 - Designed investment assessment analysis for AI-powered digital investing platform KOIN and delivered presentation to clients
- 08/22 - 09/22 **WISDO MONT CAPITAL** Shanghai, China
Industry Analyst Intern (Python)
- Initiated research analysis summary of DNA data storage industry based on business model, competitive landscape, and development trends over past 10 years and next 10 years
 - Produced in-depth evaluation of top Chinese biotech company's core technology and financial distribution, and presented investment opportunities to managers with modeling data

PROJECTS

- 01/23 - 03/23 **NORTH CAROLINA STATE UNIVERSITY** North Carolina (Remote)
Using CAPM for Pricing Risky Securities (Python)
- Examined theoretical applications of Capital Asset Pricing Model when assessing risky pricing securities
 - Assessed strategies for constructing portfolios that optimally balance risk and return according to capital market line
- 09/22 - 12/22 **NEW YORK UNIVERSITY** New York, NY
Numerical Analysis (Python, MATLAB)
- Implemented different numerical analysis models using Python, evaluating multiple approaches to solving ODEs and comparing their effectiveness
 - Analyzed advantages and limitations of each method in approximating results, and used MATLAB to visually interpret and compare results

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, Java, MATLAB, LaTeX

Languages: English (fluent); Mandarin (native)

JIAYI DING

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
 - *Expected Coursework:* risk and portfolio management, dynamic asset pricing
- 09/21 - 07/25 **PEKING UNIVERSITY** Beijing, China
B.S. in Mathematics
 - *Coursework:* linear algebra and calculus, probability and statistics, financial mathematics, stochastic process, data structure and algorithms (Python)
 - *Award:* Yizheng Scholarship (2022)

EXPERIENCE

- 06/26 - Present **XIAOYONG PRIVATE FUND** Beijing, China
(Private fund with approximately \$2B AUM)
Quantitative Research Intern (C++)
 - Researched intraday alpha signals for Chinese A-shares using 1-second L2 order-book and trade data to forecast 10-minute forward returns.
 - Designed factor families spanning order-book geometry and dynamics, liquidity imbalance, VWAP deviation, and correlation-based effects, identified signals > 0.03 mean daily IC threshold
- 06/24 - 11/24 **LASSO QUANT ASSET MANAGEMENT CO., LTD.** Beijing, China
(Private fund with approximately \$1B AUM)
Quantitative Research Intern (Python)
 - Mined high-frequency factors in Chinese A-share market by analyzing tick-level order book data and applying statistical tests to identify predictive signals, contributing to the firm's factor library
 - Generated order-book factors by combining price momentum and liquidity imbalance metrics, achieving correlation greater than 0.13 with 30s forward returns

PROJECTS

- 06/25 - 07/25 **KAGGLE COMPETITION** Beijing, China
Crypto Market Prediction (Python)
 - Developed time-aware XGBoost model capable of predicting short-term crypto future price movements using anonymous production data
 - Conducted SHAP feature engineering and model validation, achieving 0.12 correlation between predicted values and labels, ranking among the top quartile of submissions.
- 01/24 - 03/25 **UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS** Beijing, China
Research on Financial News (Python)
 - Used large language models (e.g., Llama) to generate sentence embeddings from news articles, enabling numerical representation of financial text
 - Trained linear regression model using sentence embeddings as explanatory variables to predict stock returns, Achieving 0.22 correlation between prediction and returns
- 07/23 - 01/24 **TSINGHUA UNIVERSITY** Beijing, China
Mining Factors Using the OpenFE Framework (Python)
 - Collaborated in generating daily-frequency alphas using OpenFE framework, achieving correlation greater than 0.04 with next day's return
 - Constructed and backtested stock portfolio and evaluated effectiveness of alphas that were generated

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C++, MATLAB

Languages: English (fluent); Mandarin (native)

Honors: Silver Medal, 36th Chinese Mathematics Olympiad (2020)

ANA LAURA GARCÍA RIVERA

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EDUCATION

- 2025 - 2026 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Coursework:** stochastic calculus for finance, risk and portfolio management, financial securities and markets, computing in finance, fixed income, interest rates and fx
- 2016 - 2021 **INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO (ITAM)** Mexico City, Mexico
B.S. in Applied Mathematics
- **Thesis:** "Clustering Financial Time Series: An Application to FX Markets"
 - **Honors:** Awarded "Special Distinction" for thesis during formal dissertation exam

EXPERIENCE

- 05/26 - 07/26 **LONDON STOCK EXCHANGE GROUP, LSEG** New York, NY
MBS Pricing and Analytics Summer Intern (Securitized Products, Python)
- Leveraged agentic AI workflows to build interactive HTML calibration tool, enabling evaluators to dynamically tune model parameters and model observations
 - Developed calibration framework for RMBS WAL-Support OAS surfaces, using cubic-spline interpolation and priority-weighted Gaussian kernel to incorporate new market observations
 - Automated production of price challenge reports in Python for securitized products, streamlining pricing validation and monitoring workflows
- 02/23 - 07/25 **BANCO BILBAO VIZCAYA ARGENTARIA, BBVA** Mexico City, Mexico
(Top Mexican financial services firm by consumer market share)
Data Scientist Associate (Python, Pyspark)
- Engineered and deployed 3 production-grade ML systems that optimized credit risk, client retention, and investment strategies, directly shaping high-stakes business decisions
 - Designed financial health scoring framework adopted firm-wide for client segmentation, which was later published into BBVA's internal methodology archive
 - Co-developed churn prediction engine that flagged at-risk clients up to 6 months early, enabling precision campaigns that reduced attrition by 0.5%
 - Designed model to identify investment fund eligible clients, powering campaign that attracted 2K new clients
 - Synthesized complex model outputs into actionable insights and visual dashboards that guided executive decision-making
- 12/20 - 01/23 **AFORE PROFUTURO** Mexico City, Mexico
(Mexican pension fund; 8mm clients; \$63B AUM)
FX and Fixed Income Analyst (R, SQL)
- Increased annualized alpha by 24 bps using topic modeling to extract signals from research reports
 - Automated fixed income and FX reporting pipelines, cutting delivery times from hours to minutes and enhancing real-time decision-making
 - Built interactive dashboards utilized daily by senior portfolio managers to guide investment decisions
 - Leveraged Bloomberg and Eikon Reuters data to engineer features and conduct hierarchical clustering in R, enhancing FX market analysis and business-as-usual deliverables

COMPUTATIONAL SKILLS / OTHER

Programming Languages/ Software: R, Python, Pyspark, SQL, LaTeX, MATLAB, Microsoft Office Suite
Languages: English (fluent), Spanish (native)

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Coursework:** computing in finance (Python), stochastic processes, machine learning, derivatives pricing, portfolio optimization, risk management
- 09/20 - 06/24 **CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS** Beijing, China
B.S. in Mathematics and Applied Mathematics
- **Coursework:** stochastic processes, data mining (Python), ODE, PDE, time series analysis, financial mathematics, microeconomics, macroeconomics, econometrics, C++
 - **Honors/Awards:** Academic Excellence Scholarship for 2 years (top 5% GPA), Comprehensive Development Scholarship

EXPERIENCE

- 08/24 - 11/24 **FOUNDER SECURITIES** Beijing, China
Financial Engineering Research Group (Sell-side)
Quantitative Research Intern (Python)
- Developed and backtested single-factor quantitative strategies for stock and fund selection using Python; built portfolios based on market cap, industry classification, and rebalancing frequencies
 - Simulated CSI A500 Index's pre-launch performance (2017-2024) based on its compilation methodology, comparing its risk-return profile with that of CSI 300 Index
 - Summarized macro market updates for client distribution; drafted review of public offering funds to create weekly newsletter posts
- 07/23 - 10/23 **Asset Management Division (Buy-side)**
Quantitative Research Intern (Python)
- Researched and implemented equity factors in institutional-survey and earnings-surprise domains, building end-to-end Python pipelines from raw data ingestion to factor computation
 - Constructed backtesting framework to evaluate factor efficacy, achieving 31.17% annualized excess return with 16.47% max drawdown in multi-factor portfolios
 - Enhanced prediction accuracy by implementing XGBoost for factor weighting

PROJECTS

- 09/23 - 01/24 **CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS** Beijing, China
Quantitative Analysis of Hit TV Series Determinants: LDA & Ordinal Regression (Python, R)
- Built Python web scraper to collect and preprocess more than 4,000 reviews (ratings plus text) from a leading Chinese media platform
 - Developed LDA model (coherence more than 0.5) identifying 4 key themes, with ordinal regression (R) quantifying theme-rating relationships (p less than 0.01)
- 03/23 - 04/23 **Empirical Analysis of Markowitz Portfolio Theory (Python)**
- Designed and backtested Markowitz mean-variance portfolios on CSI 300 stocks with rolling 30-day estimates and year-long daily rebalancing; evaluated performance using Sharpe ratios
 - Compared results against equal-weighted and minimum-variance portfolios, and extended framework to incorporate risk-free assets and investor risk aversion
- 05/22 - 06/22 **Estimation of Return and Risk of Snowball Option (MATLAB)**
- Constructed Monte Carlo simulation model in MATLAB for Snowball product analysis, generating 100,000 paths of reference index under Geometric Brownian Motion assumptions
 - Conducted comprehensive risk-return analysis, including probabilistic payoff distributions and downside risk exposure metrics

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, R, MATLAB, SQL, C++, EViews

Languages: English (fluent), Mandarin (native)

GUANGYU (DANIEL) HOU

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
Courant Institute School of Mathematical Sciences, Computing and Data Science
M.S. in Mathematics in Finance
- **Expected Coursework:** object-oriented programming (Python), penalized regression, decision trees, linear regression, Black-Scholes, stochastic differential equations, Hull-White model
- 09/21 – 06/25 **NANKAI UNIVERSITY** Tianjin, China
B.S. in Mathematics and Applied Mathematics
- **Coursework:** real analysis, PDE, Python, Probability, Stochastic process, Financial option
 - **Honors/Awards:** Social Welfare Scholarship, Nankai University (top 2%), National Undergraduate Innovation and Entrepreneurship Project Award (top 10%)
 - **UC Berkeley Exchange Student:** Advanced coursework in probability and stochastic processes

EXPERIENCE

- 07/26 - 09/26 **LUOSHU INVESTMENT** Shanghai, China
Quantitative Trader Intern (Python)
- Paper-traded TA option volatility in VCR framework, converting real-time spot/futures moves into fair-vol views and positioning ahead of IV repricing via dynamic reference spot/vol
 - Managed Greeks and futures delta hedges, adjusting vol/option exposure to balance directional views, convexity, hedge costs, and theta in simulated PnL
 - Developed 15–240 min CSI 1000 (MO) ATM-volatility forecasts from fair-vs-market dislocations and surface dynamics, reaching up to ~50 vol bp directional IV prediction strength
 - Researched systematic futures/equity alpha, including 5+ bp POT relative-value/basket strategies and 146-feature A-share model with 0.056 neutralized OOS IC and ~16 bp top-decile return
- 07/24 - 09/24 **CHINA SECURITIES CO., LTD.** Beijing, China
Quant Developer and Data Analyst Intern (Python)
- Developed Python scripts and optimized PySpark workflows to filter out anomalies and missing data in stock futures from Wind data source; improved efficiency by 50%
 - Began test integration of Tonghuashun API functionalities to replicate Wind's API to enable strategy execution, order placement, and cross-validation of data for enhanced system reliability

PROJECTS

- 04/24 - 10/24 **JOHNS HOPKINS UNIVERSITY** Baltimore, Maryland (Remote)
Feasibility of Transfer Learning and MFG Model Adaptability
- Analyzed optimal transport to address domain adaptation challenges
 - Researched mean field equilibrium to efficiently approximate n-player Nash equilibria; focused on mean field equilibrium's benefits and underlying procedures
 - Investigated mean field game applications across various models, analyzing how to design specific types of games and their potential real-world implementations
- 04/26 - 05/26 **IMC Prosperity 4 Trading Competition — Ranked Top 50 in US**
- Built and backtested systematic strategies with order-book signals, mean reversion, vol features, inventory-aware execution; used ablation and sensitivity tests to reject fragile specifications
 - Modeled directional product moves and competitor capital allocation from poster information; ran Monte Carlo PnL, VaR, and Expected Shortfall to size risk-adjusted positions

COMPUTATIONAL SKILLS / OTHER

Technical: Python, Linux, Latex, C++

Languages: English (fluent), Mandarin (native)

SIJIA (SCARLETT) LI

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Expected Coursework:** interest rate & FX models, ML, computing in finance, risk & portfolio management, financial securities and markets, stochastic calculus & dynamic asset pricing
- 09/21 - 06/25 **CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS** Beijing, China
B.S. in Financial Engineering
- **Coursework:** C++ programming, financial derivatives and dynamic finance, probability and statistics, calculus, algebra, operations research, database principles and applications
 - **Honor:** First-Class Scholarship (5%), 2nd Prize in Beijing Undergraduate Math Competition

EXPERIENCE

- 07/26 - 08/26 **SHEPHERD VENTURES** San Diego, CA
Quantitative Intern (Python)
- Developed mean-variance optimization strategies for downside protection and market recovery
 - Enhanced k-means stock preselection; evaluated 1K random seeds with Davies-Bouldin index and aggregated selection frequency across top clustering results; reduced drawdown to 21.4%
 - Built White Swan optimization framework for market recovery using historical recovery-period Kappa features; achieved 53.2% portfolio gain and 1.16 recovery ratio during 2020 recovery
- 07/25 - 04/25 **SHANGHAI REDWALL TAIHE FUND MANAGEMENT CO., LTD.** Shanghai, China
Strategy Research Intern (Python, C++)
- Processed Level-2 order book and trade data to develop minute-level equity alphas, including order imbalance and retail behavior factors
 - Enhanced genetic programming framework to generate alpha factors with information ratios (IRs) exceeding 3; integrated and adjusted highly correlated factors into strategies
 - Restructured code and applied Polars and Numba to boost computational efficiency
- 10/24 - 03/25 **CHINA INTERNATIONAL CAPITAL CORPORATION (CICC)** Beijing, China
(Top 4 Chinese investment bank)
Quantitative Research Intern (Python, SQL)
- Developed minute-level alphas for stocks using Python and SQL; backtested strategy using 10-year historical data, achieving 0.02 increase in model's IC
 - Performed product risk and return attribution based on quantitative multi-factor models
 - Analyzed fund data to develop FOF products; tracked equity and CTA market indicators

PROJECTS

- 06/26 - 08/26 **BANK OF AMERICA & NEW YORK UNIVERSITY TANDON** New York, NY
Personalized Wealth Portfolios in Quantitative Wealth and Investment Management
- Built goal-based investing model with client cash flows and risk-profile constraints
 - Extended the model with goal priority and postponement using differentiated shortfall penalties and funding schedules
 - Built 36-month rolling policies; achieved 9.11% annualized return and -6.85% max drawdown
- 07/24 - 09/24 **BEIJING INSTITUTE OF BIG DATA, PEKING UNIVERSITY** Beijing, China
Financial Large Language Model Development for Bank of China (BOC)
- Constructed multi-agent conversation patterns to predict macroeconomy and asset prices
 - Developed Q&A systems using retrieval-augmented generation (RAG) techniques, constructed an evaluation model to measure answer quality in aspects including hallucination and relevance

COMPUTATIONAL SKILLS / OTHER

Tech Stack: C++, Python, Java, SQL/MySQL, R, MATLAB, Stata, SAS, Power BI, Pandas, PyTorch, Excel

Languages: English (Fluent), Mandarin (Native), Cantonese (Native)

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY, Courant Institute of Mathematical Sciences** New York, NY
M.S. in Mathematics in Finance
- **Completed Coursework:** financial securities (derivatives, Black-Scholes, Greeks); stochastic calculus (Brownian motion, Itô, SDEs); risk (VaR/ES, factor models, Monte Carlo); machine learning (PCA, random forests, SVM); portfolio optimization (price impact, transaction costs)
 - **Coursework in Progress:** time series; fixed income; alternative data, crypto and blockchains
- 09/21 - 06/25 **TSINGHUA UNIVERSITY** Beijing, China
B.S. in Mechanics and B.Eng. in Civil Engineering System
- **Coursework:** mathematical analysis, ODE, probability, stochastic processes, time series, PDE
 - **Honors:** Academic Excellence and Social Work Scholarships, summa cum laude (top 5%)

EXPERIENCE

- 07/26 - 08/2026 **CICC US SECURITIES, INC.** New York, NY
Equity Intern
- Built fund-level holdings datasets to analyze China/Hong Kong exposure, portfolio concentration, position changes, and institutional ownership across global asset managers
 - Produced daily market intelligence covering macro policy, capital flows, and company catalysts
- 05/26 - 07/26 **UNITED NATIONS** New York, NY
Data Analytics & Business Intelligence Intern
- Built structured workforce-planning datasets from survey, staffing records, and workload data
 - Developed indicator libraries and validation checks for BI-ready staffing/resource analysis
- 07/24 - 12/24 **J.P. MORGAN** Beijing, China
Finance & Business Management Intern
- Consolidated multi-year KPIs, including revenue growth, client activity, profitability, and market segment trends, to support peer competitor benchmarking and long-term strategic planning
 - Built AI in Finance initiative, demonstrating reporting automation and insight generation
- 03/24 - 05/24 **MAXENTROPY QUANT** Beijing, China
Quantitative Trader Intern (Python)
- Built and documented 3+ alpha factors from price and volume data, translating signal logic into implementable models using ranking, correlation/covariance, delta, and rolling-window operators
 - Reproduced HFT futures strategy using order-book depth and queue imbalance signals
 - Developed options analytics including turnover liquidity indicator, ATR position sizing, rolling correlation, and implied-vs-realized volatility metrics for risk monitoring and signal evaluation
 - Designed and backtested trend, momentum, and reversal signals with cost, slippage, and turnover controls, improving strategy robustness for nonlinear return profiles in live-trading contexts

RESEARCH & PROJECTS

- 04/26 - Present **U.S. TREASURY MARKET RESEARCH** New York, NY
- Estimate USD/Treasury convenience-yield measures using FX swaps, SOFR/OIS, UST yields
 - Link CIP deviations to Treasury liquidity, dealer balance-sheet constraints, and debt supply
- 04/26 - 05/26 **IMC PROSPERITY 4 TRADING CHALLENGE** New York, NY
- Ranked #50 in U.S. and #180 globally out of 20,000+ participants in IMC's trading competition
 - Implemented market-making, mean-reversion, inventory-control, and volatility-smile strategies
- 01/26 - 03/26 **IAQF ACADEMIC AFFILIATE MEMBERSHIP COMPETITION** New York, NY
- Studied BTC/USD, BTC/USDT, and BTC/USDC basis around SVB/USDC de-peg event
 - Evaluated stablecoin stress and liquidity metrics to identify cross-currency dislocations

COMPUTATIONAL SKILLS / OTHER

Programming: Python (Pandas, NumPy, SciPy, Matplotlib, scikit-learn), MATLAB, SQL, R, C++, Tableau, Bloomberg
Certifications: Akuna Capital Options 201, Bloomberg Market Concepts; Databricks Fundamentals Accreditation

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Recent Coursework:** market microstructure, data science, machine learning, active portfolio management, computing in finance, financial securities and markets, stochastic calculus, risk and portfolio management
 - **Expected Coursework:** statistical arbitrage, time series analysis, fixed income
- 08/21 - 05/25 **COLUMBIA UNIVERSITY** New York, NY
B.A. in Mathematics and Astrophysics (Double Major)
Minor: Computer Science
- **Coursework:** modern algebra, real analysis, probability theory, modeling, optimization, discrete math, data structures, machine learning, simulations, modern astrophysics, quantum mechanics, electricity and magnetism
 - **Honors/Awards:** Dean's List

EXPERIENCE

- 06/26 - 08/26 **STATE OF WISCONSIN INVESTMENT BOARD** Madison, WI
Quantitative Analyst Intern (Python)
- Completed and presented two projects as part of multi-asset strategy group
 - Assessed regime-dependent return predictability of dispersion strategies and evaluated their feasibility for real-world implementation
 - Analyzed alternative app usage data to find potential predictive signals for equity returns and relative-value opportunities within sectors
 - Explored use of app activity trends as early indicators of potential credit deterioration
 - Applied data processing, visualization, and machine learning techniques such as HDBSCAN
- 05/24 - 03/25 **AMERICAN MUSEUM OF NATURAL HISTORY** New York, NY
Undergraduate Student Researcher and Team Coordinator (Python)
- Organized and led team of students in collaboration with Stanford University to study interstellar magnetic fields using Python, employing data processing, visualization, and modeling techniques
 - Designed and presented research poster at 245th American Astronomical Society meeting (Jan 2025) for audience of astronomy professors and graduate students
- 08/22 - 09/23 **COLUMBIA UNIVERSITY** New York, NY
Undergraduate Student Researcher (Python)
- Developed custom Python tools to run and analyze simulations of black hole spin evolution using numerical integration and data visualization techniques

PROJECTS

- 06/25 - 09/25 **INDEPENDENT RESEARCH** New York, NY
Algorithmic Trading Project (Python)
- Developed and backtested algorithmic trading strategy with simulated annualized returns of 9%
 - Analyzed performance of trading strategy using data visualization, Sharpe ratio, and drawdown
 - Gained insight into limitations of backtested strategies

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, JavaScript, Java, LaTeX, Microsoft Excel, Google Apps Script

Languages: English (native), Mandarin (fluent), Spanish (conversational, passed Columbia University requirement)

Honors: FIDE Master Title (International Chess Federation); National Master (US Chess Federation); Pan-American Youth Chess Champion; World Amateur Team Championship; Top College Team Captain; Top 2% team in IMC Prosperity 4

Leadership: Columbia Chess Club President (06/22-05/24)

Other: US Citizen

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Expected Coursework:** portfolio management, stochastic calculus, dynamic asset pricing, machine learning, algorithmic trading, scientific computing
- 09/21 - 06/25 **SHANGHAI JIAO TONG UNIVERSITY** Shanghai, China
B.S. in Mathematics and Applied Mathematics, Minor in Accountancy
- **Coursework:** mathematical statistics, probability, stochastic process, time series analysis, mathematical finance, PDE, ODE, real analysis, C++, econometrics
 - **Honors/Awards:** Outstanding Graduate (top 10%), Academic Excellence Scholarship (top 20%)

EXPERIENCE

- 10/24 - 12/24 **GUOLIAN FUTURES** Shanghai, China
Quantitative Research Intern (Python)
- Developed asset rotation strategies with Python, optimizing returns from stock index futures, treasury bond futures, and commodity futures based on financial indicators
 - Created new timing indicators using PMI data and exchange rates to identify stagflation phases
 - Built robust backtesting system that incorporated slippage and transaction costs
 - Achieved backtested annual return of 19.9%, Sharpe ratio of 1.81, and max drawdown of 5%
- 07/24 - 09/24 **HENGTAI SECURITIES** Shanghai, China
Quantitative Research Intern (Python, R)
- Constructed Barra CNE6 style factors and operated cross-sectional regressions to get factor return matrices and residual returns for performance analysis
 - Analyzed quarterly performance of stock portfolios, deriving 5.8% factor returns
 - Conducted regression analysis to evaluate effect of interest rate differentials on FX futures prices, finding that contracts with maturities over 6 months achieved higher R-squared values of 0.81
 - Analyzed daily stock market data with technical indicators and communicated with senior traders
- 01/24 - 03/24 **ERNST & YOUNG HUA MING** Shanghai, China
Audit Intern (Excel)
- Conducted credit risk audits of bank loan portfolios for client Cathay United Bank, analyzing borrower financials and key risk indicators to evaluate loan quality
 - Assessed risk of more than 80 wealth management products, identifying 4% as high risk

PROJECTS

- 11/24 - 05/25 **SHANGHAI JIAO TONG UNIVERSITY** Shanghai, China
Volatility-Managed Multi-Factor Strategy Research (Python)
- Incorporated realized, implied, and combined volatility measures to dynamically adjust factor exposures in multi-factor portfolio based on Fama-French five-factor model
 - Analyzed relationship between different volatility measures and optimal factor exposures across different skewness and volatility regimes in Hong Kong market
 - Demonstrated that combined volatility approach outperformed under varying market conditions, with Sharpe ratio of 1.91 and annualized alpha of 14.8%
- 09/23 - 12/23 **Black-Scholes Option Pricing Model Research (Python)** Shanghai, China
- Solved Black-Scholes-Barenblatt equation with Python using forward and backward difference methods; achieved errors of less than 0.01% compared to solution from Black-Scholes model

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C++, MATLAB, R, LaTeX, Origin

Languages: English (fluent), Mandarin (native)

Certification: Machine Learning from University of Washington on Coursera

YIHAN MAO

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Expected Coursework:** stochastic calculus, asset pricing theory, portfolio and risk management, financial markets and instruments, numerical methods, Python and C++ programming for finance, machine learning
- 09/21-01/25 **RUTGERS UNIVERSITY** New Brunswick, NJ
B.A. in Mathematics, Minor in Computer Science
- **Coursework:** stochastic processes, probability and statistics, real analysis, multivariable calculus, linear algebra, linear programming, optimization methods, data structures and algorithms, programming in Python, C, and C++, numerical methods
 - **Honors/Awards:** Dean's List (All Semesters)

EXPERIENCE

- 11/24-03/25 **KEENSIGHT.ai** Philadelphia, PA
AI Data Engineering Intern (Python)
- Automated translation of academic documents using PyMuPDF, python-docx, and Generative AI, increasing processing speed by 30%
 - Improved formatting consistency across multilingual outputs, reducing manual edits
 - Corrected OCR and structural errors in scanned PDFs to enhance data quality
- 06/24-08/24 **EXPORT-IMPORT BANK OF CHINA** Beijing, China
Risk Management Intern (Python)
- Analyzed commodity prices (LME metals, crude oil) using WIND financial terminal and Python to identify volatility drivers
 - Modeled Q2 2024 iron and steel import trends to assess macro and policy risks
- 07/23-09/23 **TCL TECHNOLOGY** Shenzhen, China
Data Analysis Intern (Python)
- Built Python tools to classify more than 1,200 bug reports, reducing triage time by 50%

PROJECTS

- 09/23-12/23 **RUTGERS UNIVERSITY** New Brunswick, NJ
Linear Optimization Model Implementation
- Implemented Simplex, Dual Simplex, and Two-Phase methods to solve matrix-based linear programming problems
 - Performed sensitivity analysis to assess solution stability under varying constraints
- 01/23-03/23 **Cache Optimization in Matrix Multiplication (C)**
- Applied loop tiling, loop interchange, and blocking techniques to reduce cache misses in C matrix multiplication
 - Benchmarked runtime and memory efficiency against unoptimized baselines

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, Java, C, Verilog HDL

Languages: English (Fluent), Mandarin (Native)

Interests: Custom PC building, hardware optimization

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
 - **Expected Coursework:** stochastic calculus, dynamic asset pricing, market microstructure, deep learning
- 09/21 - 06/25 **RENMIN UNIVERSITY OF CHINA** Beijing, China
Dual B.S. Degrees in Mathematics and Finance
 - **Coursework:** probability and statistics, numerical methods, optimization, real analysis, functional analysis, PDEs; portfolio theory, corporate finance, fixed income, derivatives; machine learning
 - **Honors:** National Scholarship (Ranked 1st in Major)

EXPERIENCE

- 06/26 - 08/26 **MORGAN STANLEY** New York, NY
Summer Associate, Quantitative Research Team, Solutions & Multi-Asset (Python)
 - Built EPS-revision, target-price-revision, and revision-breadth signals, adjusting earnings windows to isolate expectations and mitigate contamination
 - Developed machine-learning frameworks to predict analyst forecast errors from fundamentals, constructing expectation gap factor for post-earnings alpha and achieving average information coefficient (IC) of 3%
 - Investigated interactions among expectation gaps, analyst revisions, and style factors to develop earnings-surprise signals with predictive power over standalone factors, increasing IC by 20%
 - Established conditional double-sort framework using sequential decile sorts to evaluate effectiveness and built sentiment long-short strategy across dynamic universes, achieving Sharpe ratio of 2.8
- 11/24 - 04/25 **ALLIANZ ASSET MANAGEMENT** Beijing, China
Quantitative Research Intern (Python, R)
 - Developed GRU-based stock long-short strategy through factor selection, hyperparameter and forecast-horizon tuning, and turnover, position, sector, and style constraints, achieving Sharpe ratio of 2.6
 - Constructed live-updating library of 60 alpha factors for index futures and options timing, with IC above 2%, based on macro fundamentals, cash, futures, and options price-volume data, and tick-level data
 - Engineered modular, object-oriented (OOP) backtesting framework supporting multi-source data ingestion, signal generation, rebalancing simulation, and paper-trading PnL analytics
- 07/24 - 11/24 **REDWALL TAIHE FUND MANAGEMENT** Beijing, China
(A-share focused quantitative fund with more than \$720M AUM)
Quantitative Research Intern (Python)
 - Designed index-enhancement strategy by forecasting PM-session excess returns using LSTM and MLP models trained with custom loss function, achieving excess-return Sharpe ratio of 2.4
 - Explored 40 high-frequency alpha factors from tick-level and order-book data, capturing order-flow imbalance, market depth and spread dynamics; accelerated computation using multiprocessing
 - Built supply-chain weight matrix to propagate fundamentals across upstream and downstream firms, applying cross-sectional overlay to enhance alpha factors, increasing average IC by 15%

PROJECT

- 01/25 - 04/25 **RENMIN UNIVERSITY OF CHINA** Beijing, China
Dissertation: Deep Learning-Based Timing Strategy for Stock Index Futures (Python)
 - Built systematic index futures timing strategy using hybrid deep-learning models; applied cross-validation, feature selection, and regularization to mitigate overfitting and improve out-of-sample forecast accuracy
 - Tailored model architectures and factor sets to each index and market, customizing feature engineering to capture asset-specific dynamics and regime differences

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C, R, DolphinDB

Languages: English (fluent), Mandarin (native)

Activities: First Prize in National Math League; Top 0.3% (Province) in China's National College Entrance Examination

YIFEI REN

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
 - **Expected Coursework:** risk & portfolio management, dynamic asset pricing
- 09/20 - 05/24 **NEW YORK UNIVERSITY** New York, NY and Shanghai, China
B.S. in Mathematics
 - **Coursework:** multivariable calculus, PDE, ODE, numerical analysis, stochastic processes, math modeling, probability theory
 - Selected as student delegate for private roundtable with former U.S. Secretary of State Antony Blinken at NYU Shanghai Campus

EXPERIENCE

- 06/24 - 08/25 **BEIJING DDHS CAPITAL CO. LTD.** Beijing, China
Investment & Trading Analyst
 - Managed \$1M proprietary capital to generate over 25% excess returns vs. CSI 300 from Sep 2024 to Jul 2025 through integrated analysis and dynamic portfolio optimization
 - Engaged regularly with senior regulatory officials in multiple government agencies to translate insights into actionable investment strategies and portfolio adjustments
 - Structured 3 LPs, and managed fund's equity allocations, led negotiations with portfolio companies, and drafted and negotiated investment agreements
 - Attended CICC, CITIC Securities, and J.P. Morgan Asset Management investment forums; conducted financial/legal due diligence on multiple listed companies
- 07/23 - 09/23 **HUATAI SECURITIES** Beijing, China
(Top 4 Chinese securities firm)
Equity Capital Markets Investment Analyst
 - Executed valuations, determined issuance pricing, and participated in key IPO/SEO meetings for 5 listed companies; coordinated cross-functional teams
 - Distilled key international macro insights and KPIs from Bloomberg, Wind, and other data terminals for executive leaders' decision making
 - Informed investment decisions via fundamental and quantitative analysis; classified stocks and evaluated key metrics like Sharpe, volatility, drawdown, alpha, and beta
 - Managed investor relations for IPO and SEO projects; clarified investment mandates and secured allocations

PROJECT

- 12/23 - 05/24 **NYU INDEPENDENT STUDY MATH THESIS**
Stochastic Differential Equation and Its Application in Finance
 - Investigated foundational stochastic calculus; analyzed properties of Brownian motion and established interconnections with Itô's integral and lemma
 - Derived Black-Scholes option pricing model using Brownian motion and Itô's lemma

COMPUTATIONAL SKILLS / OTHER

Programming & Financial Tools: MATLAB, Python (Pandas, NumPy), SQL, Bloomberg, WIND, Excel

Languages: English (fluent), Mandarin (native)

Athletics: China National Second Level 1500m Athlete, Deadlift Personal Record 397 lbs

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
 - **Expected Coursework:** Machine learning and computational statistics, stochastic calculus & dynamic asset pricing, computing in finance, risk and portfolio management
- 09/22 – 06/25 **UNIVERSITY COLLEGE LONDON** London, UK
B.S. in Mathematics
 - **Coursework:** Probability and statistics, advanced probability, machine learning and artificial intelligence, measure theory, numerical methods, stochastic processes
 - Honors: top 5% out of approximately 300 students

EXPERIENCE

- 07/24 - 08/24 **SHENWAN HONGYUAN SECURITIES** Beijing, China
Quantitative Analyst Intern (Python, SQL)
 - Used Requests/bs4 to scrape 10 years' barrier option price/cost data; visualized via Matplotlib; analyzed price behavior near barrier levels; discovered volatility spike on approach
 - Used binary tree, finite difference method and Monte Carlo simulation to price exotic options; Compared simulation outputs with market quotes; found max 5% differences
 - Designed trading strategy using pool of technical indicators; applied feature importance and Shapley Value to select top indicators (momentum, RSI, Bias Ratio)
 - Predicted daily barrier option returns via regularized kernel and LSTM; directional strategy achieved Sharpe 1.5 ex costs in backtesting
- 07/23 - 08/23 **HUAXI SECURITIES** Shanghai, China
Quantitative Analyst Intern (Python)
 - Decomposed individual stock risks via Barra risk factor analysis in Chinese A-Share market; fitted regression coefficients on liquidity, volatility, earnings growth, and momentum factors
 - Engineered government policy factor; boosted model's R-squared by 20%
 - Studied stationarity of stock prices and returns; used Augmented Dickey-Fuller test for hypothesis testing; spotted non-stationarity in prices and stationarity in return of 90% symbols
 - Selected impactful features from existing pool; applied hard filters of IC 0.05
 - Used PCA on some features to condense set; mitigated RNN models' curse of dimensionality

PROJECTS

- 06/25 - 07/25 **Cross Section Stock Selection Strategy (Python)** New York, NY
 - Constructed more than 100 alpha signals for US equities based on price and volume inputs; achieved low collinearity between features
 - Built backtesting framework and factor management system; adopted vectorized computation and multiprocessing to accelerate factor generation and backtesting process by more than 3.5x
 - Combined alpha signals through deep learning models including MLP, ResNet, LSTM, and Transformer; achieved out-of-sample Sharpe of 1.5
- 06/23 - 07/23 **CALIFORNIA INSTITUTE OF TECHNOLOGY** Pasadena, CA
Research on Option Pricing and Hedging Strategies (Python)
 - Collected recent 8 years of FTSE 100 index data; used Pandas to build dataframes for index prices and rolling volatility
 - Preprocessed abnormal values via heatmap and outlier analysis; produced cleaned dataset for pricing research
 - Led group of 4 to analyze volatility smile and interest rate processes' impact on prices; used GARCH models to fit implied volatility
 - Adopted Vasicek model to convert constant rates into stochastic rates; bridged gap between fitted prices and live quotes by 17 %

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python (NumPy, Pandas, Matplotlib, Seaborn, sk-learn), SQL, Java, C++

Languages: English (fluent), Mandarin (native)

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Coursework:** stochastic calculus, dynamic asset pricing, valuation of financial securities, risk and portfolio management, machine learning, computational statistics
- 06/20 - 06/25 **UNIVERSITY OF TORONTO** Toronto, Canada
B.S. in Specialist Statistics - Quantitative Finance Stream
- **Coursework:** linear algebra, multivariate calculus, differential equations, multivariate statistics, regression analysis, probability and stochastic processes, time series analysis
 - **Honors/Awards:** Dean's List (2021-2025); Graduation with High Distinction

EXPERIENCE

- 09/24 - 11/24 **ICARUS FUND** New York, NY
(Asset management firm with \$900M in AUM)
Quantitative Research Intern (Python)
- Conducted weak-form market efficiency testing on seasonality/weekly patterns of Moderna and its competitors by implementing autoregressive and random walk models
 - Compared ARIMA, VAR, and state-space models for stock price prediction, producing diagnostic reports that improved forecasting accuracy for investment strategies
- 01/24 - 03/24 **HUATAI SECURITIES** Shanghai, China
Quantitative Analyst Intern (Python)
- Enhanced company's asset allocation by implementing mean-variance and Black-Litterman models, achieving 0.21 absolute increase in portfolio Sharpe ratio
 - Developed small-cap stock selection strategy inspired by Fama-French factor principles, achieving annualized return of 18.41% over 6-month backtest period
- 05/23 - 08/23 **SHANGHAI FUNDAMENTAL & BEYOND ASSET MANAGEMENT** Shanghai, China
Financial Analyst Intern (Python)
- Improved company's trading performance by designing hybrid strategy that combined technical and fundamental signals, achieving 30% relative increase in win rate
 - Analyzed profitability and growth potential of companies in hydrogen energy sector to provide reliable reference for investment decisions

PROJECTS

- 01/24 - 06/24 **UNIVERSITY OF TORONTO** Toronto, Canada
Empirical Investigation of Carbon Emissions Trading Systems (R)
- Investigated impact of primary market auctions on secondary market prices within EU Emissions Trading System (EU ETS), in collaboration with 4 other students
 - Verified that carbon emissions trading market is consistent with EMH by implementing ARIMA regression model on carbon price with commodities and meteorological data
 - Developed trading strategies based on auction and spot prices of carbon emission allowances, achieving maximum cumulative PnL of 43% over 4 years
- 09/23 - 12/23 **UNIVERSITY OF TORONTO** Toronto, Canada
Video Track Analysis for HeroRATs' Odor Preference (R)
- Collaborated with APOPO, an NGO that aims to detect landmines or tuberculosis using scent-detection animals like HeroRATs
 - Identified key behavioral patterns and their implications for HeroRATs' odor preferences by performing principal component analysis on dataset of rats' video behaviors

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, R, C

Languages: English (fluent), Mandarin (native)

Activities: UofT Teaching Assistant; UofT Green Path Association Mentor

MENGLIN (WARREN) WU

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EDUCATION

Expected 12/26	NEW YORK UNIVERSITY The Courant Institute of Mathematical Sciences M.S. in Mathematics in Finance • Coursework: market microstructure, advanced topics in equity derivatives trading, risk & portfolio management, machine learning and computational statistics	New York, NY
09/21 - 06/25	FUDAN UNIVERSITY B.S. in Applied Mathematics • Coursework: functions of real variables, functional analysis, probability theory, stochastic processes, stochastic calculus, mathematical statistics, partial differential equations • Award: First-class Joint Scholarship (top 2%)	Shanghai, China

EXPERIENCE

05/26 - 08/26	ONE RIVER ASSET MANAGEMENT Quantitative Research Intern (Python, SQL) • Built dockerized CI/CD pipeline with GitHub Actions and Jenkins, automating testing, production deployment, and daily runs of volatility strategies with Snowflake data updates • Modularized vectorized equity volatility backtester with multi-timestamp execution pricing and per-leg PnL attribution, plus full pytest suite reconciled against event-driven backtester • Backtested vega-neutral and theta-neutral volatility strategies, including constituent-versus-index dispersion on IGV, SOXX, and sector-based long-short baskets • Built volatility long-short baskets by ranking single-name volatility forecasts against implied volatility, evaluated through delta-hedged straddle backtests with transaction costs	Stamford, CT
03/25 - 06/25	SHENZHEN HANRONG PRIVATE FUND CO., LTD Quantitative Research Intern (C++, Python) • Built C++ pipeline to reconstruct limit order books for crypto perpetual contracts from tick-level incremental data, generating full-depth snapshots and microstructure-based features • Designed order book factors including depth-asymmetry measures and imbalance signals at multiple depth levels, with streaming online statistics for per-bar computation • Evaluated factors cross-sectionally with LightGBM and grouped return analysis, identifying signals with consistent monotonic performance across quantiles	Shanghai, China

PROJECTS

03/26	NEW YORK UNIVERSITY Quantitative Trading Strategies for WTI Crude Oil Futures (Python) • Enhanced WTI momentum and carry strategies with CFTC positioning filters and volatility-adaptive thresholds • Added PMPU short positioning as low-correlation hedging-pressure signal, improving portfolio Sharpe and drawdown over 2011–2023	New York, NY
01/24 - 11/24	FUDAN UNIVERSITY Data-pooling Algorithms in Contextual Bandits (Python) • Reformulated adaptive-pooling methods from reinforcement learning literature to stochastic multi-armed bandit and contextual bandit settings, improving theoretical regret guarantees • Developed weighted-loss regression framework enabling time-varying data pooling, with refined regret bounds based on confidence-radius aggregation	Shanghai, China

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C++, SQL (Snowflake)

Languages: English (fluent), Mandarin (native)

BOHONG XU

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
 - **Coursework:** financial markets, interest rate model, stochastic calculus, portfolio optimization, market microstructure, Black-Scholes, machine learning
- 09/21 - 06/25 **WUHAN UNIVERSITY** Wuhan, China
B.S. in Physics
 - **Exchange Program:** Universität Graz, Austria (Full Scholarship), Spring 2024

EXPERIENCE

- 05/26 - 08/26 **ONE RIVER ASSET MANAGEMENT** Stamford, CT
Quantitative Research Intern
Volatility Desk
 - Priced variance, gamma, and volatility swaps by Carr-Madan static replication and calibrated single-name volatility surfaces, supporting desk's daily marks, Greeks, and P&L attribution
 - Built long-straddle research stack on 50 largest S&P 500 constituents, pricing daily 30-day ATM contracts from 2006–2026 and engineering 53 price and volume factors
 - Trained quarterly-refitted walk-forward CatBoost models on settled trades only, cutting 65% of candidates and improving return on premium by 5.8 points
 - Built earnings repricing detector from volume and overnight-gap z-scores using 252-day window, 3σ intersection threshold, and 42-day event isolation
 - Engineered earnings factors from event-to-normal variance ratios, prior announcement moves, and event implied variance recovered by stripping quiet-period variance from 10-day ATM IV
 - Ranked signals over rolling two-year cross-firm windows and entered 15 days pre-earnings; technology returned 10.2% on premium versus negative unconditional long-vol book**Delta One Desk**
 - Constructed walk-forward long-short ratio factor on 52 Chinese commodity futures from daily top-20 broker positions across SHFE, DCE, CZCE, INE, and GFEX
 - Scored broker seats by Spearman IC between open-interest-normalized positioning and forward returns over rolling 24-month windows, rebuilding quarterly from top five
 - Measured alpha decay from mean IC 0.016 at entry to 0.008 by day four, while share of contracts with positive IC declined from 81% to 62%
 - Confirmed persistence through LSR autocorrelation of 0.93 at day one and 0.79 at four days, with informative broker-seat rosters recurring across refits
 - Set EWMA span from measured four-day half-life rather than tuning it, cutting turnover by two-thirds and improving net Sharpe from 0.51 to 0.81
 - Extended signal to whole-market long-short cross-section at 1.15 gross / 0.77 net Sharpe, then bucketed contracts by liquidity, coverage, persistence, and seat stability
- 10/24 - 01/25 **CAUSIS MANAGEMENT (WUHAN) CO., LTD.** Wuhan, China
Quantitative Research Intern – High Frequency Trading (Python)
 - Built institutional order-flow factor from tick data, reconstructing per-second active buy and sell volume and defining large orders at 90th percentile of trade size
 - Tested whether informed trading size predicted near-term price moves; resulting signal reached 9.87% correlation with 60-second forward returns
 - Selected features by SHAP contribution rather than univariate IC, evaluating correlated microstructure signals by marginal rather than standalone predictive value
 - Fit random forest for nonlinear interactions; improved 60-sec return IC 5.7% vs. linear baseline
 - Backtested strategy 2022–2024; achieved 2.03 annualized Sharpe ratio, 12% max drawdown

COMPUTATIONAL SKILLS / OTHER

Programming: Python (NumPy, pandas, scikit-learn, SHAP, PyTorch, Matplotlib), SQL, MATLAB

Data & Platforms: Bloomberg Terminal (OVDV, OMON, OVME), Volatility Dynamics (calibration, pricing), MySQL

Languages: English (fluent), Mandarin (native)

LEXI (ANTHONY) YAO

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EDUCATION

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|----------------|---|----------------|
| Expected 12/26 | NEW YORK UNIVERSITY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
<ul style="list-style-type: none">• Expected Coursework: stochastic calculus, asset pricing, Python in finance, portfolio management, derivative market, machine learning, market microstructure, time series analysis | New York, NY |
| 09/21 - 06/25 | CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS
B.Econ. in Financial Engineering
<ul style="list-style-type: none">• Coursework: advanced algebra, stochastic process, financial econometrics, big data in finance, data structures and algorithms, artificial intelligence, numerical methods in finance• Awards: Academic Excellence Scholarship for 2021-2022 and 2023-2024• Thesis: "Turnover Effect and Mispricing in Chinese Stock Market: Based on Endogenous Beta Perspective" | Beijing, China |

EXPERIENCE

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|---------------|--|-----------------|
| 05/25 - 07/25 | JINYI CAPITAL
Quantitative Research Intern (Python)
<ul style="list-style-type: none">• Reconstructed original order book from tick-by-tick transaction data and order flow information• Constructed over 300 daily and intraday order factors based on snapshot tick data, tick-by-tick transaction records, and original order book information• Collaborated on development of company's high-frequency trading system, optimized factor construction algorithms, and improved efficiency of order factor data ingestion | Beijing, China |
| 01/25 - 04/25 | HUATAI SECURITIES CO., LTD.
Financial Engineering Intern (Python)
<ul style="list-style-type: none">• Applied LSTM and Lasso algorithms to enhance pair trading strategies, significantly improving risk-adjusted returns, with Sharpe ratio rising from 1.49 to 2.06• Used XGBoost algorithm to develop weekly multi-factor strategy, achieving Sharpe ratio of 3.23 with 4.81% maximum drawdown• Achieved 18.13% annual return through portfolio optimized by Black-Litterman model, including 18 assets from commodities to stocks | Shanghai, China |
| 07/23 - 10/23 | GUOTAI HAITONG SECURITIES CO., LTD.
Quantitative Allocation Intern (Python, KDB)
<ul style="list-style-type: none">• Used KDB to construct over 100 price-volume factors from minute-level stock data; utilized Python for factor normalization and market capitalization neutralization• Developed single-factor backtesting program for decile categorization and showed metrics like annual volatility, Sharpe ratio, and maximum drawdown• Improved average factor annual return to 22.43% through factor aggregation weighted by information coefficient of each factor | Shenzhen, China |

PROJECT

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| 09/23 - 01/24 | CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS
Application of Multi-Factor Strategy Based on Stacking Algorithms
<ul style="list-style-type: none">• Mined 54 factors across 7 dimensions including momentum and profitability• Applied logistic, random forest, SVM, LightGBM, and XGBoost algorithms for investment• Constructed stacking ensemble learning model with multiple algorithms; conducted backtesting on aggregated ensemble models | Beijing, China |
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COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, C++, MATLAB, SQL

Languages: English (fluent); Mandarin (native)

Activities: Advanced Mathematics teaching volunteer at Central University of Finance and Economics

ENYANG (TONY) YU

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
 - **Coursework:** financial computing, portfolio management, derivatives pricing, stochastic calculus
- 09/20 - 05/24 **NEW YORK UNIVERSITY** New York, NY
B.A. in Economics and Mathematics
 - **Coursework:** calculus, linear algebra, optimization, differential equations, real analysis, game theory, econometrics, probability, statistics, financial mathematics

EXPERIENCE

- 07/24 - 07/25 **LANDAIR PROPERTY ADVISORS** New York, NY
Senior Investment Sales Associate
 - Valued commercial properties based on capitalization rates, comparables, and pro-forma analyses
 - Generated more than \$20 million in exclusive listings through cold-calling and targeted research
 - Closed about \$6 million worth of real estate transactions with buyer and seller representation
 - Improved workflow efficiency by 10% and suggested improvements in technology systems
 - Constructed robust client book of more than 20 developers, investors, and attorneys
- 06/23 - 08/23 **CHINA MERCHANTS SECURITIES CO. LTD.** Shenzhen, China
Quantitative Analyst Intern (Python, SQL)
 - Exported financial data from Wind Financial Terminal to Excel and analyzed using VBA
 - Organized and cleaned financial data in Python using SQL queries and Pandas
 - Compiled clean, filtered, and ready-to-use data for more than 3,000 Chinese Class A stocks
 - Experimented with effectiveness of financial factors using monotonicity testing, rank information coefficient, and Monte-Carlo simulations

PROJECTS

- 03/24 - 05/24 **NEW YORK UNIVERSITY** New York, NY
Mathematics of Finance: Derivative Analysis and Simulation (Python)
 - Implemented deterministic finite difference and stochastic discretization schemes to approximate price and Greek paths of options in Python
 - Conducted thorough analysis of effectiveness and accuracy of each method and discretization step by using Black-Scholes model as analytical baseline
 - Simulated exotic option spread using Monte-Carlo simulations and Black-Scholes PDE
 - Analyzed distribution of dynamically hedged portfolio over multiple time intervals
- 04/24 **Data Science Club x CBRE Datathon (Python)**
 - Collaborated with other students on machine learning construction prediction model with 48-hour timeline
 - Sourced satellite imagery of more than 200 plots of construction in various stages of development and processed data using PyTorch dataloaders and transforms
 - Fine-tuned hyperparameters and additional layers on pretrained ResNet and VGG16 models to approximate estimated time of completion, achieving approximately 70% accuracy

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, SQL, VBA

Languages: English (native), Mandarin (fluent)

CHEN ZHANG

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Coursework:** quantitative portfolio construction and optimization, VaR, options strategy, machine learning, asset pricing, factor decomposition, algorithmic trading, fixed income models
 - **Award:** Lester Cup Winner (presentation of quant finance topics to non-technical audiences)
- 09/21 - 07/24 **UNIVERSITY COLLEGE LONDON** London, England
B.S. in Economics and Statistics
- **Coursework:** probability and statistics, calculus, linear algebra, ordinary/partial differential equations, regression analysis, Black-Scholes, stochastic processes, econometrics, game theory

EXPERIENCE

- 12/24 - 02/25 **CAIDA SECURITIES** Tangshan, China
Asset Management Intern
- Analyzed candlestick chart formations and MACD to identify market momentum, developing stock-picking strategies that enhanced client portfolio by 15%
 - Conducted equity research on Chinese sports industry during period of sectoral growth
- 06/24 - 08/24 **BANK OF TANGSHAN** Tangshan, China
Commercial Banking Intern
- Facilitated property appraisals as loan collateral and conducted comprehensive risk assessments, using statistics such as loan-to-value ratios
 - Performed financial due diligence to ensure smooth supply chain financing transactions

PROJECTS

- 08/26 - 08/26 **Akuna Capital Trading Challenge: Binary Options Market-Making Strategy (Python)**
- Developed automated market making engine for binary/event options
 - Priced contracts on rates and correlated companies using Markov-chain dynamic programming and closed-form Gaussian approximation, reducing theoretical pricing error to near 0
 - Implemented inventory-aware RFQ/FOK execution, avoiding bankruptcy in 50+ stress tests
- 03/26 - 04/26 **NYU COURANT** New York, NY
NLP: Text Representation and Latent Semantic Analysis (LSA) for Reuters articles (Python)
- Constructed high-dimensional text embeddings using TF-IDF vectorization (10k features)
 - Applied SVD based LSA to reduce dimensionality to 400 while preserving 52% of variance
 - Demonstrated that LSA captures semantic relationships beyond exact word overlap; integrated TF-IDF and LSA features into downstream models, improving classification performance
- 03/26 - 03/26 **Loan Default Risk Modelling With Machine Learning (Python)**
- Built end-to-end pipeline using scikit-learn to preprocess German credit dataset; applied stratified train-test splitting to preserve class distribution in imbalanced dataset
 - Trained and compared logistic regression, LDA, and Naive Bayes models, tuning hyperparameters with 5-fold GridSearchCV; evaluated performance with precision-recall curves
- 03/24 - 03/24 **UNIVERSITY COLLEGE LONDON** London, UK
Portfolio Risk Estimation Using Copula-Based Model (R)
- Implemented ARMA-GARCH models to assess volatility and autocorrelation in log-returns of portfolio built from various index funds
 - Conducted statistical tests, such as Jarque-Bera and Ljung-Box, for distribution analysis
 - Modeled dependency of assets using copulas; selected optimal model via BIC
 - Performed Monte Carlo simulation to estimate VaR at 95% and 99% confidence levels

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, R, Stata, SQL, Power BI

JIAQI (PETER) ZHANG

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
- **Expected Coursework:** object-oriented programming, Brownian motion, Ito integral, Black-Scholes, derivatives valuation, stochastic processes
- 09/21 - 05/25 **NEW YORK UNIVERSITY** New York, NY
B.A. in Mathematics and Economics
- **Coursework:** corporate finance, data structure, probability & statistics, numerical analysis, ordinary differential equations, optimization, stochastic calculus
 - **Honors/Awards:** Founders Day Award, cum laude

EXPERIENCE

- 06/26 - 08/26 **RA CAPITAL MANAGEMENT** Boston, MA
Quantitative Research Intern (Python, SQL, Excel, Bloomberg Terminal, Databricks)
- Automated a biotech M&A database of 1,000+ transactions with a Python pipeline consolidating FactSet and PitchBook feeds, replacing a manual refresh process with a scheduled weekly job
 - Cleaned and classified 800+ China out-licensing transactions by deal structure, counterparty type, and payment terms, reconciling deal- and asset-level records across multi-asset agreements
 - Built an interactive dashboard surfacing licensing deal trends by modality, target, and phase, letting the investment team benchmark upfront-versus-milestone splits across comparable deals
 - Modeled post-lockup exit liquidity for 150 China biotech IPOs on the STAR Market and Hong Kong, computing days-to-liquidate from daily trading volume and conduct sensitivity analysis
- 12/22 - 01/23 **TAKENAKA PARTNERS** Los Angeles, CA
Investment Banking Winter Analyst (SQL, PitchBook)
- Evaluated and identified more than 100 targets for each client as part of targeted screening process for 2 buy-side mandates in surgical navigation and kitchen maintenance service industries
 - Brainstormed potential synergies through market research, and ranked targets using internal scoreboard with various criteria; estimated targets' annual revenue and revenue multiple ranges
- 05/22 - 08/22 **BONDCLIFF PARTNERS** Boston, MA
Private Equity Summer Analyst (Excel, PitchBook)
- Conducted proprietary deal origination and screened 500 healthcare software companies for potential buyouts; updated database, drafted outreach emails, and prepared for conference calls
 - Researched electronic health records industry, including summarizing annual filings of industry leaders and gauging key trends by speaking to industry experts

PROJECTS

- NEW YORK UNIVERSITY** New York, NY
- 03/26 - 05/26 **Statistical Arbitrage Portfolio Optimization (Python)**
- Designed and implemented a quantitative equity trading pipeline in Python, including factor model estimation, AR(1) forecasting, and daily portfolio optimization using CRSP market data
 - Optimized portfolio rebalancing under transaction costs by incorporating liquidity-based market impact and smoothed trading rules, comparing net P&L to evaluate execution efficiency
- 01/26 - 03/26 **Intraday Realized Volatility Forecasting using OLS, LASSO, and XGBoost (Python)**
- Built high-frequency data pipeline in Python to construct 5-minute realized volatility from 1-minute equity data, and generate expanding-window out-of-sample forecasts for 87 stocks.
 - Implemented and benchmarked AR(21)-OLS, LASSO, and XGBoost models for intraday volatility prediction, evaluating forecast accuracy using MSE and QLIKE

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, Java, SQL

Languages: English (fluent), Mandarin (native)

Activity/Affiliation: NYU Chinese Finance Club (Mentee), NYU Math for Economics Recitation Leader

YONGJIE (ERIC) ZHAO

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
- **Coursework:** mathematical finance, stochastic calculus, scientific computing, algorithmic trading, numerical methods, machine learning
- 09/20 - 06/25 **UNIVERSITY OF WATERLOO** Waterloo, ON, Canada
B. Math in Statistics; Minors in Pure Mathematics & Computer Science
- **Coursework:** optimization, mathematical programming, quantitative risk management, probability, statistical inference, deep learning, stochastic processes, combinatorics, numerical linear algebra, real analysis
 - **Honors/Awards:** Dean's Honours, Mathematics Undergraduate Research Award, President's Scholarship, Alumni@Microsoft Entrance Scholarship in Mathematics

EXPERIENCE

- 05/25 - Present **UNIVERSITY OF WATERLOO** Waterloo, ON, Canada
Undergraduate Research Fellowship (MATLAB)
- Formulate theoretical proofs for Gauss-Newton-based primal-dual interior point method applied to semidefinite relaxation (SDP) of Maximal Stable Set Problem
 - Designed MATLAB-based algorithms that reached 16-decimal accuracy on small-scale SDP problems, and identified scalability challenges that informed directions for further optimization
- 09/24 - 12/24 **Undergraduate Teaching Assistant - Probability**
- Graded assignments and quizzes for over 150 students, and ensured grading was consistent with course rubrics and learning objectives
- 05/23 - 09/23 **Research Assistant (Python)**
- Applied neural networks to estimate hedging ratios for path-dependent options, designing custom loss functions and evaluating performance relative to classical hedging methods
 - Implemented RNN and LSTM models; visualized and analyzed hedge ratios to assess accuracy and improve understanding of model effectiveness in financial markets
- 09/21 - 12/21 **CSC FINANCIAL CO., LTD.** Shenzhen, China
Product Director Assistant (Excel)
- Analyzed performance persistence of 1,000 mutual funds by calculating Spearman correlation coefficients in Excel and visualizing trends to support portfolio strategy recommendations
 - Aggregated team performance data; created daily charts to monitor key business metrics for management

PROJECTS

- 08/24 - 09/24 **UNIVERSITY OF WATERLOO** Waterloo, ON, Canada
Reinforcement Learning Algorithms in Control Problems (Python)
- Implemented Soft Actor-Critic (SAC) algorithms to solve humanoid robot movement tasks in OpenAI gymnasium
 - Achieved more than 4,500 moving average reward during first 4,000 episodes and stabilized performance at higher range thereafter
- 07/24 - 08/24 **Expectation-Maximization Algorithm Applications in Quantitative Risk Management (R)**
- Demonstrated convergence of EM algorithm for multivariate-t distribution through proofs
 - Applied in R to simulated ($n=1000$, $d=10$) and real financial data (3 indices, $n=1257$), achieving rapid convergence and improved tail-risk fit vs Gaussian

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, MATLAB, R, LaTeX

Languages: English (fluent), Mandarin (native)

Certification: FRM Level II Candidate

LIAN ZHU

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EDUCATION

- 09/25 - 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute School of Mathematics, Computing, and Data Science
M.S. in Mathematics in Finance
 - **Coursework:** portfolio management, market microstructure, alternative data, statistical arbitrage, financial data science, deep learning, stochastic calculus, derivatives, crypto & blockchain
- 09/21 - 03/25 **UNIVERSITY OF CALIFORNIA, SANTA BARBARA** Santa Barbara, CA
B.S. in Financial Mathematics and Statistics (Honors, Top 10%)
 - **Coursework:** linear regression, machine learning, time series, scientific computing, fixed income

EXPERIENCE

- 07/26 - 09/26 **MORGAN STANLEY INVESTMENT MANAGEMENT** Shenzhen, China
AI Quantitative Research Intern (Python)
 - Developed GFlowNet-based alpha factor framework to address low factor diversity in traditional methods, generating 200 factors from OHLCV data with mean Rank IC/ICIR of 0.079/1.698
 - Designed algorithm to correct dimensional inconsistency in GFlowNet-generated factors
 - Selected factors from 200 candidates by predictive power, stability, robustness, interpretability, and diversity; constructed composite factor using XGBoost and neutralized for cap and industry
 - Backtested composite factor via long-only portfolios across CSI1000 with weekly rebalancing and performance evaluation, achieving 0.244 annualized excess return and 0.095 tracking error
 - Presented weekly findings to portfolio managers and non-technical team members
- 07/24 - 08/24 **CHINA MERCHANTS SECURITIES CO., LTD.** Shenzhen, China
Quantitative Research Intern (Python)
 - Built price-volume correlation factor using standardized monthly price and volume statistics, delivering 18.52% annualized long-short returns with 9.87% maximum drawdown
 - Refined price-volume signal by removing reversal effects, reducing max drawdown by 5%
- 07/23 - 08/23 **BANK OF BEIJING CO., LTD.** Beijing, China
R&D Engineer Intern (Python)
 - Built 500+ features through feature engineering; applied tree-based interactions, automated WOE binning, IV, correlation analysis, stepwise regression, and PSI checks to select 10 final predictors
 - Developed logistic regression-based credit scorecard, achieving AUC/KS/PSI of 0.81/0.42/0.10

PROJECTS

- 01/26 - 05/26 **NYU COURANT** New York, NY
Dynamic Factor ETF Allocation Strategy (Python)
 - Applied Sparse Jump Model with technical/macro features to identify factors bull/bear regimes
 - Converted regime signals into Black-Litterman relative views; optimized long-only, fully invested, benchmark-relative MVO portfolio with EWMA covariance and ridge regularization
 - Backtested out-of-sample with 10 bps transaction costs, outperforming monthly rebalanced equal-weight benchmark: +9.5% cumulative return, +0.32 Sharpe, -0.4% max drawdown
- 01/26 - 05/26 **Quantitative Strategy & Market Microstructure Research (Python)**
 - Applied factor model to analyze AQR Equity Market Neutral Fund Class I QMNIX
 - Built residual reversion signal and designed trading strategy with alpha, risk, and cost models
 - Analyzed Bank of America raw tick data to identify intraday market microstructure patterns
 - Applied ML models on minute-level bar data to forecast realized volatility across 100 stocks

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, SQL

Languages: English (fluent), Mandarin (native)

Award: Chess (Top 1%, Beijing Mind Sports Competition)

SIYI ZHU

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EDUCATION

- Expected 12/26 **NEW YORK UNIVERSITY** New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance
 - **Expected Coursework:** computing in finance, financial securities and modeling, risk and portfolio management, stochastic calculus, asset pricing, derivative market, machine learning
- 09/20 - 12/24 **MOUNT HOLYOKE COLLEGE** South Hadley, MA
B.A. in Mathematics and Economics
 - **Coursework:** calculus, linear algebra, discrete mathematics, probability, real analysis, stochastic processes, number theory, abstract algebra, data structures (Java), statistics (R)

EXPERIENCE

- 06/24 – 08/24 **CHINA SECURITIES** Beijing, China
Quantitative Research Intern (Python)
 - Developed volatility-linked position adjustment model using Python to optimize pricing, risk management, and performance of financial instruments and portfolios
 - Calculated daily return lines for backtesting beta trend control strategies using CSI 500 and CSI 1,000 datasets with Python, assessing impact of various market conditions on performance
 - Analyzed protective put strategies for hedging downside risk in futures positions by purchasing put options, ensuring delta-neutral coverage to mitigate potential losses
 - Designed hybrid quantitative trading strategy using Lasso Regression Model in Python, achieving 3.73% excess return during downturns and reducing market risk exposure by 31.75%
- 05/24 - 06/24 **MOUNT HOLYOKE COLLEGE** South Hadley, MA
Research Assistant (Netlogo, Python)
 - Investigated spin-coated polymer films with NetLogo using modified versions of Triangular Growth Model on outside-in growth and dynamic color changes to simulate polymer dynamics
 - Designed Color-Index & Color-Front Model to visualize growth phases of triangular polymer structures with dynamic color changes, bond formation, and polymer aging over time
 - Developed image-based statistics of polymer using network theory and ML algorithm
- 06/23 - 08/23 **CINDA SECURITIES** Beijing, China
Research Analyst Intern
 - Authored comprehensive market research on energy storage converters and virtual power plants, energy transformation policy trends, risks and market size to support investment strategies
 - Presented comparative analyses of Chinese photovoltaic inverter industry and energy storage installations across global markets, leveraging regression models to forecast future performance

PROJECTS

- 07/22 - 08/22 **BROWN UNIVERSITY** Providence, RI (Remote)
Research on Minimum Covering Circle (MATLAB)
 - Investigated optimal solutions to minimum covering circle problem using MATLAB, focusing on enhanced outcomes through convex optimization and Lagrangian duality techniques

COMPUTATIONAL SKILLS / OTHER

Programming Languages: Python, Java, R, C/C++, Stata, LaTeX, MATLAB, Bloomberg

Languages: English (fluent), Mandarin (native), French (basic), Korean (basic)

Certifications/Baruch Pre-MFE Programs: Advanced Calculus with Financial Engineering Applications (Distinction), Probability Theory for Financial Applications, Bloomberg Market Concepts & Finance Fundamentals

Activities: Teaching Assistant at Mount Holyoke College for Intro. to Proof Through Analysis, Mathematics & Statistics Department Liaison, Clarinet (Performance Level 1), Sailing (Assistant Coach Certificate), Ballet (RAD 6)

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Connect with the students directly, or contact
MathFin's Office of Career Services at:
cims-mathfin-careerservices@nyu.edu