



**NYU**

COURANT INSTITUTE SCHOOL OF MATHEMATICS,  
COMPUTING, AND DATA SCIENCE

*SEPTEMBER 2026*

# **RESUME BOOK**

## **INTERNSHIP 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 summer internships.

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](https://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/](https://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.

# PIN CHIEH (NORA) CHEN

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** Derivatives pricing, stochastic processes, asset pricing, portfolio optimization, risk modeling, machine learning, financial econometrics, numerical methods
- 09/21 - 06/26 **NATIONAL YANG MING CHIAO TUNG UNIVERSITY** Hsinchu, Taiwan  
**College of Management**  
**B.S. in Information Management and Finance**
- **Coursework:** Probability, mathematical statistics, real analysis, financial econometrics, financial engineering, numerical analysis, asset pricing, data structures, computer algorithms
  - **Honors/Awards:** Academic Excellence Award (Spring 2024, Fall 2024)
  - **Research:** Negative WTI Futures Price, Financial Indices, and DCC-GARCH Model — Research proposal selected for funding by Taiwan's National Science and Technology Council

## EXPERIENCE

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- 07/24 - 01/25 **MERCER** Taipei, Taiwan  
**Actuarial Intern (VBA)**
- Validated pension benefits data and supported actuarial liability estimation for defined benefit and defined contribution plans
  - Evaluated changes in pension liabilities and supported actuarial consulting projects by performing financial and experience gain/loss analyses
  - Collaborated with senior actuarial consultants on pension administration, including retirement benefit calculations and retirement processing for corporate employees
  - Contributed to preparation of 15+ pension valuation reports for corporate clients
- 06/23 - 07/23 **DBS BANK** Taipei, Taiwan  
(One of the largest banks in Southeast Asia)  
**Institutional Banking Operations Management Intern (Python, VBA)**
- Improved operational efficiency by developing Python and VBA tools to automate data processing, data validation, and syndicated loan documentation, reducing repetitive manual tasks
  - Designed VBA-based user interface with input validation to standardize document preparation and streamline user workflows
  - Built automated reporting pipeline using Python to extract Excel data and generate standardized PDF reports for syndicated loan operations

## PROJECT

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- 07/24 - 02/25 **NATIONAL YANG MING CHIAO TUNG UNIVERSITY** Hsinchu, Taiwan  
**Negative WTI Futures Price, Financial Indices, and DCC-GARCH Model (Python)**
- Investigated April 2020 negative WTI crude oil futures event by analyzing supply-demand imbalances, inventory dynamics, and Cushing storage constraints
  - Developed multivariate regression, CCC-GARCH, and DCC-GARCH models to quantify volatility dynamics and correlations between crude oil futures and financial market indices
  - Proposed Cushing storage utilization as explanatory factor, improving interpretation of extreme crude oil futures pricing under stressed market conditions
  - Identified spot prices, U.S. oil production, petroleum inventories, Cushing storage utilization, and VIX as significant drivers of WTI futures prices

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python (NumPy, Pandas, SciPy, scikit-learn, Matplotlib), VBA

**Languages:** English (fluent); Mandarin (native)

**Certifications:** Society of Actuaries (SOA) – Exam P, Exam FM

# RUNZE CHEN

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Coursework:** deep learning, stochastic analysis, portfolio management, asset pricing
- 09/22 - 06/26 **RENMIN UNIVERSITY OF CHINA** Beijing, China  
**Dual B.S. in Mathematics and Finance**
- **Coursework:** mathematical statistics, econometrics, stochastic processes, optimization, numerical methods, machine learning, data structures and algorithms, financial engineering
  - **Honors/Awards:** Academic Scholarship, Second Class; Merit Student Award; Meritorious Winner, Mathematical Contest in Modeling

## EXPERIENCE

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- 01/26 - 05/26 **GUORONG SECURITIES** Beijing, China  
(China-based securities firm with approximately US\$1B AUM)  
**Quantitative Strategy Research Intern (Java, C++)**
- Implemented equity alphas in Java-based research framework using fundamental, market, sentiment, and L2 high-frequency data
  - Engineered L2 microstructure signals from price-zone concentration, price-volume divergence, sell-pressure recovery, and order-book elasticity
  - Built automated alpha-mining pipeline with expression templates and genetic algorithms, streamlining backtesting, filtering, and correlation deduplication
  - Built microstructure features from 300ms OrderQueue snapshots and evaluated signal efficacy against 30-minute forward returns, with strongest feature reaching 8% mean IC
- 09/25 - 01/26 **WANJIA ASSET MANAGEMENT CO., LTD.** Shanghai, China  
(Chinese mutual fund manager with over US\$80B AUM)  
**Quantitative Research Intern (Python)**
- Developed high-frequency equity factors from 1-minute bar data, extracting predictive signals from return distributions, volume structures, price-volume profiles, and information aggregation
  - Combined low-correlation factors into composite signal that achieved Sharpe ratio of 4.58, maximum drawdown of 5.3%, and rank IC of 3.1% under weekly rebalancing
  - Screened factor candidates through time-series and cross-sectional correlation analysis, limiting maximum correlation with existing factors to 0.43 to improve signal additivity
- 07/24 - 10/24 **ESTEEL INVESTMENT MANAGEMENT** Beijing, China  
(China-based private securities fund manager)  
**Quantitative Commodity Research Intern (Python)**
- Collected and cleaned ferrous commodity futures data for rebar and iron ore, aligning prices, open interest, basis, and inventory indicators across sources
  - Designed supply-chain-driven factors and forecasted rebar futures returns using ARIMA, exponential smoothing, ADF stationarity tests, and AIC/BIC model selection

## PROJECT

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- 04/26 - 06/26 **WORLDQUANT BRAIN ALPHA MINING PROJECT** Beijing, China(Remote)  
**Quantitative Research Project**
- Collaborated on developing automated alpha-mining system tailored to WorldQuant platform, integrating data selection, idea generation, expression construction, and submission workflow
  - Built LLM-assisted research pipeline using DeepSeek API to generate economically interpretable alpha hypotheses and accelerate factor iteration in U.S. equity market

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, C/C++, MATLAB, Stata

**Languages:** English (fluent); Mandarin (native)

# DAIN (OLIVIA) CHOI

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## EDUCATION

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- Expected 12/27 **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, portfolio optimization, time series analysis, algorithmic trading, fixed income modeling, FX models, credit derivatives
- 08/23 - 04/26 **MCGILL UNIVERSITY** Montréal, Canada  
**B.S. in Mathematics**
- **Coursework:** probability & statistics, stochastic processes, numerical analysis, ordinary differential equations, linear algebra, algebra, real analysis, multivariable calculus

## EXPERIENCE

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- 01/25 - 04/26 **MCGILL UNIVERSITY** Montréal, Canada  
**Undergraduate Student Course Assistant**
- Analyzed solutions in probability, real analysis, and complex analysis, assessing mathematical rigor, logical consistency, and problem-solving approaches
  - Identified gaps in mathematical reasoning and addressed technical questions, providing targeted feedback to improve solution accuracy and efficiency
- 08/25 - 04/26 **MCGILL DIVERSITY IN MATH** Montréal, Canada  
**Vice President, Communications**
- Increased email open rates from 40% to 90% and monthly reach from 200 to 300+ by optimizing content, timing, and outreach strategy for research opportunities and academic resources
- 08/25 - 04/26 **SCIENCE UNDERGRADUATE SOCIETY OF MCGILL** Montréal, Canada  
**Accountability Coordinator**
- Investigated student concerns and applied governance procedures to resolve operational issues
  - Coordinated 10+ student organizations, resolving 8 disputes to maintain effective operations
- 06/25 - 08/25 **BOE TECHNOLOGY GROUP** Chongqing, China  
(Leading global display technology manufacturer)  
**Product Management Intern**
- Developed project tracking framework across 5 manufacturing teams, standardizing progress reporting and improving cross-team visibility into product development and launch timelines
  - Analyzed LCD manufacturing data and identified bottlenecks reducing process efficiency

## PROJECTS

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- 01/26 - 05/26 **MCGILL UNIVERSITY** Montréal, Canada  
**Directed Reading Program: The Dyson Equation for Random Matrices (Python)**
- Implemented Monte Carlo simulations in NumPy to analyze eigenvalue distributions of large-scale random ensembles, comparing empirical spectra with theoretical predictions
  - Derived spectral perturbation bounds for self-consistent Dyson equation, establishing convergence of empirical spectral distributions to semicircle law
  - Delivered invited seminar presentation and co-authored a technical report
- 05/25 - 11/25 **Undergraduate Research Project: Cheeger's Inequality and Related Topics**
- Analyzed relationships between spectral gaps and Markov chain mixing times, applying eigenvalue techniques to characterize random-walk behavior in large networks
  - Presented at Delta Epsilon 9th Edition Launch Day and published research paper

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, SQL, R

**Languages:** English (fluent); Mandarin (fluent); Korean (native)

**Affiliations/Certifications:** University of Pennsylvania Finance & Quantitative Modeling for Analysts Specialization; Google Data Analytics Specialization; IBM Python for Data Science, AI & Development (ongoing)

# JAMES CROSS

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** unit testing, data structures and algorithms, distributed computing, machine-learning, hypothesis testing, principal component analysis, singular value decomposition, risk modeling, hedging, arbitrage
- 08/22 - 05/26 **STONY BROOK UNIVERSITY** Stony Brook, NY  
**B.S. in Physics and Mathematics**
- **Coursework:** non-linear partial differential equations, scientific computing, topology, real analysis, measure theory, linear algebra, tensor fields, advanced quantum mechanics, statistical mechanics, wave propagation
  - **Honors and Activities:** Magna cum laude, Honors College, President of Society of Physics Students Chapter
  - **Theses:** Stability of Self-Similar Blowup in the Riccati Equation; and Inextensible Loop in 2D

## EXPERIENCE

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- 08/24 - 12/25 **STONY BROOK UNIVERSITY** Stony Brook, NY  
**Peer Tutor for Intro and Core Physics**
- Encouraged biology students struggling with degree-required introductory physics courses
  - Tutored over 30 students across three semesters in introductory and intermediate mechanics, electromagnetism, thermodynamics, and quantum mechanics
- 06/25 - 08/25 **URECA Research Internship Program (Python)**
- Studied linear wave equation with point source in two and three dimensions (Green's functions, Fourier transforms)
  - Simulated what song would sound like in two dimensions (CUDA for Numba)
- 06/24 - 08/25 **Summer Math Scholar Internship Program (Python)**
- Characterized self-similar profile leading to finite-time blowup as  $\frac{2}{3}$ -cusp using log-log graphs
  - Simulated dynamics of inextensible loop of thread confined to two dimensions as chain with links (finite element method)
  - Implemented Euler timestepping and solved linearized tension equation iteratively with Gauss-Seidel solver
- 05/23 - 08/23 **Undergraduate Research Assistant (Python)**
- Analyzed motion-tracking data of confined rats with Parkinson's disease with small team
  - Synthesized measurable statistics from team's qualitative hypothesis for code implementation
  - Troubleshoot bugs and environment setup with other student researchers

## PROJECT

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- 08/25 - 05/26 **STONY BROOK UNIVERSITY** Stony Brook, NY  
**Stability of Self-similar Blowup in the Riccati Equation**
- Proved stability of certain one- and two-parameter self-similar solutions to Riccati equation with quadratic perturbation
  - Applied contraction principle and Sobolev embedding to fixed-point and compactness methods, proving existence of solutions, respectively

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python

**Language:** English (native)

**Interests:** Personal network-attached storage (NAS) server

**Citizenship:** U.S. Citizen

# XINYU (ARIEL) DONG

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## EDUCATION

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- Expected 12/27 **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, stochastic calculus, machine learning, portfolio optimization, Black-Scholes, market microstructure
- 08/22 - 12/25 **OHIO STATE UNIVERSITY** Columbus, OH  
**B.S. in Mathematics in Finance**
- **Coursework:** linear algebra, ordinary differential equations, real analysis, derivatives markets, Bayesian statistics, asset pricing
  - **Honors:** Dean's list, magna cum laude

## EXPERIENCE

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- 07/25 - 08/25 **KUNSHAN DINGJIA INVESTMENT MANAGEMENT CO., LTD** Jiangsu, China  
(Private equity firm)  
**Quantitative Research Intern (Python)**
- Automated preprocessing and anomaly detection for 10-year financial market data, identifying missing values, outliers, and inconsistent observations
  - Developed AR(1) forecasting model for WTI crude oil prices using lagged price data to analyze short-term price dynamics
  - Analyzed forecast errors using RMSE during oil supply disruptions to evaluate model sensitivity to market shocks
  - Presented statistical findings to investment professionals, translating quantitative results into market insights

## PROJECTS

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- 09/25 - 12/25 **OHIO STATE UNIVERSITY** Columbus, OH  
**Quantitative Research Assistant**  
**Trading Policy Development Using Reinforcement Learning (Python)**
- Experimented with PPO, DDPG, and SAC in PyTorch across standard reinforcement learning environments to examine policy learning behavior
  - Formulated S&P 500 tactical allocation as Markov Decision Process, defining state representations, trading actions, and transition dynamics
  - Applied PPO-Clip to optimize daily market exposure within 0-2 allocation range, evaluating performance using modified Sharpe ratio
- 02/25 - 06/25 **Quantitative Research Assistant**  
**Portfolio Optimization with Bootstrap Shrinkage Calibration (Python)**
- Extended Tu & Zhou's 1/N and mean-variance framework with expected-utility shrinkage calibration and smoothed bootstrap estimation
  - Implemented 120-month rolling window estimation and out-of-sample backtesting on Fama-French 10 industry portfolios spanning 1926-2024
  - Benchmarked extended approach against original Tu & Zhou specification using certainty-equivalent returns (CER)

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, MATLAB, C++

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

# LAURA DOUGLAS

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## EDUCATION

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|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Expected 12/27 | <b>NEW YORK UNIVERSITY</b><br><b>The Courant Institute School of Mathematics, Computing, and Data Science</b><br><b>M.S. in Mathematics in Finance</b><br>• <b>Coursework:</b> trading systems architecture, securities pricing, market microstructure, derivatives, portfolio optimization, value at risk, factor models, statistical inference, time series analysis                                                               | New York, NY     |
| 09/19 - 06/24  | <b>DREXEL UNIVERSITY</b><br><b>B.S. in Computer Engineering, Minor in Computer Science</b><br>• <b>Coursework:</b> supervised learning, neural networks, dynamic programming, complexity analysis, signal processing, Fourier analysis, linear algebra, probability distributions, algorithm design<br>• <b>Honors/Awards:</b> Walter E. Diemer Scholarship (50% off tuition), Pennoni Honors College Medal, Duke of Edinburgh Award | Philadelphia, PA |

## EXPERIENCE

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|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 06/24 - 08/26 | <b>GHOST ROBOTICS</b><br><b>Test Engineer I&amp;II; Quality SWE (Python, C++, Bash, Docker, Llama3, PostgreSQL/pgvector)</b><br>• Built internal LLM-based debugging assistant using retrieval-augmented generation (RAG) to accelerate troubleshooting across actuator, sensor, and FPGA subsystems<br>• Designed and executed validation protocols for I <sup>2</sup> C/SPI/UART communication on actuator and FPGA-connected PCB's; automated test benches for regression analysis and failure investigation                                                                                                                       | Philadelphia, PA |
| 04/23 - 06/24 | <b>Embedded Systems Intern; Reliability Technician (Python, C++, Bash, Docker)</b><br>• Engineered diagnostic suites (Docker, OpenCV, iperf) for real-time sensor validation and performance characterization; improved tests throughput and traceability<br>• Conducted timing closure analysis on FPGA peripherals; collaborated with firmware engineers on state consistency and low-latency protocol verification                                                                                                                                                                                                                 |                  |
| 09/20 - 03/21 | <b>DREXEL UNIVERSITY – Students Tackling Advanced Research</b><br><b>Researcher (Python, MATLAB)</b><br>• Prototyped wireless communication systems using SDR grid; conducted experiments on OFDM modulation, channel impulse response, and signal degradation under real-world conditions<br>• Developed MATLAB and Python simulations for multi-carrier systems; enabled visual analysis of noise, delay spread, and spectral efficiency<br>• Translated EM ray tracing results into hardware-testable format; deployed to Dragon Radio using LXC system for validation of simulation predictions against real hardware performance | Philadelphia, PA |

## PROJECTS

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|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 04/26 - 06/26 | <b>PYCLOB (Python)</b><br>• Published pip-installable Python library implementing central limit order book matching engine with multiple order types, time-in-force logic, and fill reporting                                                                                                       | Philadelphia, PA |
| 05/26 - 06/26 | <b>WORLD CUP-XCHANGE (HTML, PLpgSQL)</b><br>• Built full-stack prediction market for FIFA World Cup 2026 (Supabase/React/real-time WebSocket matching engine)<br>• Validated core exchange mechanics including order matching, portfolio risk, and settlement logic across multi-user test sessions | Philadelphia, PA |
| 10/24 - 11/24 | <b>FX FORECAST MODEL (Python)</b><br>• Predicted next-hour CAD highs using OLS and a 20-fold cross-validated elastic net in scikit-learn pipeline; profiled error by session across mean, RMS, and 5th to 95th percentile                                                                           | Philadelphia, PA |

## COMPUTATIONAL SKILLS / OTHER

**Programming Languages:** Python (NumPy, pandas, scikit-learn, TensorFlow), C++, JavaScript (Node.js, React), Bash, MATLAB, Java, Verilog, VHDL

**Languages:** English (native), French (basic)

**Interests:** Equity investing (75%+ cumulative return since 2024)

# JULIA DU

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** Itô's Lemma & Black-Scholes pricing, portfolio & risk management (factor models, Var/Cvar, optimization), financial derivatives, computational finance
- 09/22 - 05/26 **NEW YORK UNIVERSITY** New York, NY  
**B.A. in Economics and Mathematics**
- **Coursework:** regression analysis, probability distributions, Markowitz optimization, CAPM, factor models, Fama-French factors, Black-Scholes pricing, numerical methods
  - **Honors/Awards:** Kaggle - Make Data Count: Finding Data References - Silver Award (Top 5%)

## EXPERIENCE

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- 09/25 - 12/25 **WISDOM ARK** New York, NY  
**Data Science Intern (Python)**
- Built data pipelines for QQQ/TQQQ historical market data, automating extraction, cleaning, feature engineering, data validation, debugging, and robust API error handling procedures
  - Developed framework for return analytics, momentum signals, and strategy backtesting, integrating classification, regression, and clustering models using price and volatility features
  - Designed strategy evaluation system with portfolio performance visualization, market-regime analysis, A/B testing, and Git-based version control for reproducible strategy comparison
- 06/25 - 09/25 **ZHESHANG SECURITIES RESEARCH INSTITUTE** Shanghai, China  
**Quantitative Research Intern (Python, SQL, Wind)**
- Created factor databases from large-scale equity datasets, developing data cleaning, alignment, and validation pipelines to ensure data consistency and reliability across quantitative analyses
  - Built multi-dimensional equity factors spanning value, momentum, quality, and volatility signals; replicated and extended asset-pricing frameworks including Fama-French for systematic research
  - Backtested factor strategy against internal benchmarks, evaluating risk-adjusted returns, factor performance, and strategy robustness across market regimes and historical market conditions

## PROJECT

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- 06/24 - 08/24 **BOSC ASSET** Shanghai, China  
**Stock Style Classification via Weighted Regression and Seed Portfolios**
- Developed regression-based stock style classification framework with weighted least squares and seed portfolios; addressed key limitations of factor-scoring and clustering to style identification
  - Designed multi-factor segmentation with growth/value seed portfolios and time-series regressions; weighted high-dispersion regimes to improve robustness across equities
  - Backtested classification signals on historical equity data, evaluating portfolio returns, style consistency, and signal stability to assess effectiveness across changing market regimes

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, SQL, C, C++

**Languages:** English (native), Mandarin (native)

# ZHEKAI FAN

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance Candidate at NYU courant**
- **Coursework:** object-oriented programming, financial modeling; mean-variance analysis, asset pricing; derivatives pricing, arbitrage, Black-Scholes; Brownian motion, Itô calculus, SDEs
- 06/26 **UNIVERSITY OF CALIFORNIA, DAVIS** Davis, CA  
**B.S. in Applied Mathematics & Statistics**
- **Coursework:** statistical inference; stochastic processes; optimization; regression and classification; time-series analysis; mathematical finance

## EXPERIENCE

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- 07/25 - 09/25 **CHENGQI ASSET MANAGEMENT** Shenzhen, China  
**Quantitative Research Intern (C++, Python, Linux)**
- Developed C++ high-frequency alpha factors and integrated them into PySim on Linux servers, enabling faster backtesting and iteration for intraday strategy research
  - Processed tick records and conducted latency-aware robustness tests across multiple parameter configurations, helping team identify more stable factor settings and reduce overfitting risk
- 07/24 - 09/24 **CHINA MERCHANTS SECURITIES** Shenzhen, China  
**Quantitative Research Intern**
- Built and backtested cross-sectional equity factors across thousands of A-share stocks over 20 years, providing empirical evidence for factor selection and portfolio research
  - Applied regression and time-series analysis to evaluate alpha persistence and risk characteristics, helping research team filter unstable signals before further strategy development
- 06/23 - 08/23 **EY CHINA** Shenzhen, China  
**Insurance Consulting Intern (Excel)**
- Built Excel pricing and reserve models under IFRS 17 and analyzed insurance cash flows, supporting liability valuation and scenario analysis for client deliverables
  - Analyzed balance sheets and accounting treatments across companies, identifying key financial-risk drivers to support client benchmarking and risk assessment

## PROJECTS

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- 04/26 - Present **UC DAVIS** Davis, CA  
**CEMP for SE(d) Synchronization**
- Extended graph-based synchronization methods to estimate camera positions and orientations from noisy measurements; combined rotation and translation errors into unified robustness score
- 03/25 - 05/26 **[TriP: Robust Translation Averaging \(Co-first Author\)](#)** Davis, CA
- Recovered camera locations from noisy directional data across large image collections
  - Developed triangle-based optimization method to identify unreliable measurements, estimate consistent relative distances, and prevent degenerate collapsed solutions
- 09/25 - 10/25 **GOOGLE CHROME AI CHALLENGE 2025** Shenzhen, China (Remote)  
**Web Developer**
- Built full-stack learning application with Google APIs and multimodal inputs
  - Developed data pipelines for extraction, summarization, and user-history-based recommendations

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** C++, Python, MATLAB, R, Bash, SQL

**Tools:** Linux, Git, LaTeX, Excel, PySim

**Languages:** English (fluent); Mandarin (native)

# PRANEETH GAJULA

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## EDUCATION

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- Expected 12/27 **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, risk & portfolio management, machine learning & computational statistics, market microstructure
- 08/20 - 05/24 **UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL** Chapel Hill, NC  
**B.S. in Applied Mathematics and Economics, minor in Data Science**
- **Coursework:** linear algebra, data structures & algorithms, ordinary & partial differential equations, convex optimization, econometrics, intermediate & advanced microeconomics, probability & statistics, financial markets, intermediate industrial organizations

## EXPERIENCE

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- DELOITTE** Charlotte, NC
- 02/25 - 07/26 **Cyber Consultant / Analyst – Data Privacy & Protection (Python, SQL)**
- Led evidence collection and control-owner coordination for audits covering 30+ articles under EU Digital Services Act and 50+ commitments across related codes of conduct
  - Reengineered semiannual compliance report in two weeks, closing evidence gaps, improving audit outcome, and mitigating exposure to fines of up to 6% of annual turnover
  - Developed AI agents for audit workflows independently, using historical engagement data and internal system context, reducing stakeholder evidence-gathering time by approximately 30%
  - Liaised with control owners, specialists, and firmwide industry experts to strengthen client recommendations, reduce redundant evidence requests by 20%, and cut overall requests by 50%
  - Assessed compliance posture against 50+ new regulatory commitments and trained incoming control owners on documentation standards, responsibilities, and audit expectations
- 09/24 - 02/25 **Cyber Analyst - Data Encryption (AppViewX)**
- Tested deployment of code-signing solution in non-production environment, and authored technical documentation supporting secure stakeholder adoption
  - Standardized cross-workstream deliverables and analyzed one year of data privacy and protection activity to support performance reporting and FY25 planning
- 06/23 - 08/23 **Cyber Intern - Data Governance (Microsoft Purview, Varonis)**
- Built KPI dashboard to assess maturity of aerospace client's data-governance council and analyzed training feedback to identify adoption improvements
  - Evaluated Microsoft Purview, Varonis, and competing data-governance platforms; supported vendor selection, implementation planning, adoption, and client handoff

## PROJECTS

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- 01/24 - 05/24 **UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL** Chapel Hill, NC
- Modeling Insect Size Evolution Under Atmospheric Oxygen Constraints (MATLAB)**
- Developed PDE-based diffusion model to estimate viable insect body size, subject to minimum internal oxygen thresholds and declining atmospheric concentrations
  - Extended model across alternative geometries and boundary conditions via Schwarz-Christoffel mappings; simulated multigenerational selection as oxygen availability declined
- Modeling Pricing Dynamics of EU Pharmaceutical Companies (Python)**
- Formulated static Bertrand competition model, incorporating EU pharmaceutical pricing, regulatory, and market-structure constraints
  - Implemented numerical framework in Python to evaluate equilibrium prices and firm responses under alternative cost, demand, and competitive assumptions

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, MATLAB, LaTeX, Mathematica, SQL, R

**Languages:** English (native), Telugu (fluent), Hindi (fluent)

**Citizenship:** US Citizen

# TOM GUO

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## EDUCATION

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- Expected 12/27 **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, derivatives modeling, statistical machine learning, computational finance, algorithmic trading systems
- 09/21 - 06/26 **UNIVERSITY OF WATERLOO** Waterloo, ON  
**Bachelors in Mathematics**  
**Double Major in Mathematical Finance and Statistics, Minor in Computing**
- **Coursework:** measure-theoretic probability, stochastic processes, quantitative risk management, time series forecasting, numerical PDEs, Monte Carlo simulation, optimization in finance, derivative pricing, data structure and algorithms, object-oriented programming
  - **Honors/Awards:** NSERC undergraduate research award

## EXPERIENCE

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- 05/25 - 08/25 **ONEX CORPORATION** (\$56B AUM, TSX: ONEX) Toronto, ON  
**Quantitative Risk Management Intern (Python, SQL)**
- Monitored fund and portfolio-level exposures using Bloomberg, analyzing VaR, beta, and sector concentration to guide investment decisions and strengthen portfolio risk management strategies
  - Conducted equity research using Bloomberg, building automated screening tools to identify high-performing metrics across global equities and support systematic idea generation
  - Designed Python-based quantitative models to analyze relative value, historical trends, and cross-sectional market data, translating data-driven insights into actionable investment strategies
  - Implemented scenario analysis and stress-testing frameworks to quantify potential performance and assess portfolio resilience under macroeconomic shocks
- 01/25 - 05/25 **ERGO NEXT INSURANCE** (Acquired by Munich Re) Palo Alto, CA  
**Reserving Actuary (Python, SQL)**
- Improved efficiency and accuracy in loss ratio calculations and reserve forecasts by automating reserving workflows with SQL, Python, and Excel macros, streamlining data processing
  - Developed Python/SQL tools for claim pulls and development factor interpolation, enhancing efficiency of pricing and financial forecasting initiatives across actuarial and data science teams
- 05/23 - 08/24 **MCMASTER UNIVERSITY** (Top Health Science Research in Canada) Hamilton, ON  
**Machine Learning Research Intern (Python, PyTorch)**
- Researched and implemented advanced machine learning methods to analyze hundreds of retinal images, emphasizing statistical pattern recognition and predictive modeling for disease diagnosis
  - Designed and deployed a Python/PyTorch pipeline that standardized image quality, increasing dataset reliability and improving diagnostic model accuracy by 30%

## PROJECT

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- 05/25 - 12/25 **UNIVERSITY OF WATERLOO** Waterloo, ON  
**CNN Crypto Imaging Research (Python, ML)**
- Forecasted cryptocurrency price trends with convolutional neural network models, drawing on methods from “(Re-)Imag(in)ing Price Trends,” applying research to practical market situations
  - Classified directional price movements on rolling quarterly basis using historical OHLC return data, extracting predictive signals, and evaluating their statistical validity
  - Developed and backtested systematic trading strategies informed by model outputs, assessing profitability, risk-adjusted returns, and practical applicability in real-market context

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, C, SQL, R, Typescript

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

**Certifications:** Bloomberg Market Concepts, Bloomberg Finance Fundamentals

# VAIBHAV KASHYAP

(646) 623 5410 | [vaibhav.kashyap@nyu.edu](mailto:vaibhav.kashyap@nyu.edu) | [linkedin.com/in/vaibhav-kashyap/](https://www.linkedin.com/in/vaibhav-kashyap/) | [Website](#)

## EDUCATION

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Expected 12/27 | <b>NEW YORK UNIVERSITY</b><br>The Courant Institute School of Mathematics, Computing, and Data Science<br>M.S. in Mathematics in Finance <ul style="list-style-type: none"><li><b>Expected Coursework:</b> scientific computing, stochastic processes, Bayesian statistics, market microstructure, time series analysis, portfolio optimization, computational statistics</li></ul>                                                                           | New York, NY |
| 08/16 - 10/20  | <b>GGSIIP UNIVERSITY</b><br>Maharaja Agrasen Institute Of Technology<br>BS in Computer Science and Engineering <ul style="list-style-type: none"><li><b>Coursework:</b> probability, statistics, linear algebra, multivariable calculus, differential equations, partial differential equations, C++, Python, OOP, deep learning</li><li><b>Research:</b> Intelligent Traffic Light Control System Based on Traffic Environment Using Deep Learning</li></ul> | Delhi, India |

## EXPERIENCE

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 07/23 - 07/26 | <b>PROPERTY GURU Group</b><br>(Largest property marketplace in South-East Asia)<br><b>Senior Software Engineer</b> (Typescript, Python, React, MongoDB, SQL) <ul style="list-style-type: none"><li>Migrated core search pages (5M/day) from monolith to microservices, reducing core usage by 65% and RAM by 55% while maintaining latency</li><li>Led complete technical unification of sister brand into organisation infrastructure, reducing infra cost by over 25%</li></ul> | Singapore        |
| 01/23 - 07/23 | <b>TIKTOK</b> (Golang, Python)<br>(Social media serving 2 billion users globally)<br><b>Backend Software Engineer - Trust &amp; Safety Engineering</b> <ul style="list-style-type: none"><li>Automated reporting of live extreme risk, improving response time by over 50%</li><li>Built applications for countering election and general misinformation</li></ul>                                                                                                                | Singapore        |
| 04/21 - 01/23 | <b>ROADZEN AI</b><br>(B2B AI fintech in insurance & mobility)<br><b>Software Developer - Backend</b> (Golang, Typescript, PostgreSQL, WebRTC) <ul style="list-style-type: none"><li>Created quantitative engine for insurance payouts processing over \$1B</li><li>Designed and developed dynamic workflow system and rule engine for big data processing</li></ul>                                                                                                               | New Delhi, India |
| 10/20 - 03/21 | <b>GEEKS-FOR-GEEKS</b> (Golang, C++, Python, Java, DynamoDB)<br>(EdTech platform serving 20M+ global users)<br><b>Software Engineer</b> <ul style="list-style-type: none"><li>Reduced response time for core IDE by 20% and compute cost by over 30%, creating pipelines for concurrent execution of users' code</li><li>Developed in-house containerization tools using control groups, namespaces, and cgroups</li></ul>                                                        | Noida, India     |
| 03/18 - 04/18 | <b>NITI AAYOG</b><br>(Public policy think tank, Government of India)<br><b>Intern - Development Monitoring and Evaluation Office</b> (Python, SQL) <ul style="list-style-type: none"><li>Prepared and presented status report on financial management of state owned companies</li><li>Developed progress dashboards for national housing schemes</li></ul>                                                                                                                       | New Delhi, India |

## SKILLS

**Programming Languages:** C++, Python, Golang, NodeJS (TypeScript & JavaScript), Java, Shell Script  
**Technologies:** MySQL, MongoDB, PostgreSQL, DynamoDB, Redis, Elasticsearch, REST API, GraphQL, GRPC, ReactJs, HTML, SCSS/CSS, WebRTC, Docker, Git, AWS, BrowserStack, ByteCloud, RabbitMQ, Kafka, RocketMQ  
**Languages:** English (fluent), Hindi (native)  
**Interests:** Dragon Boat Racing (Finalist, Singapore River Regatta)

# SUMEET KHADELWAL

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** Black-Scholes formula, stochastic processes, Hull-White model, risk modelling, deep learning for portfolio management and algorithmic trading, real world data handling
- 08/19 - 08/26 **RUTGERS UNIVERSITY** New Brunswick, NJ  
**Ph.D. in Mathematics**
- **Coursework:** algebra, geometry, advanced probability
  - **Thesis:** Fukaya Category for Moduli Space of Polygons
- 08/15 - 05/19 **INDIAN INSTITUTE OF TECHNOLOGY, DELHI** New Delhi, India  
**B.Tech in Mathematics and Computing**
- **Coursework:** algebra, probability and statistics, introduction to machine learning, real and complex analysis, data structures and algorithms, Fourier analysis, numerical methods
  - **Honors/Awards:** Silver Medal (department rank: #1)
  - **Thesis:** Analytical Number Theory and Littlewood Methods

## EXPERIENCE

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- 08/19 - 08/24 **RUTGERS UNIVERSITY** New Brunswick, NJ  
**Teaching Assistant**
- Managed workshops and recitations for undergraduate calculus, algebra, and probability
  - Held office hours to further guide students and prepared course exams

## PROJECTS

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- 08/22 - 08/26 **RUTGERS UNIVERSITY** New Brunswick, NJ  
**Ph.D. Thesis**
- Conducted research in symplectic geometry on moduli space of polygons
  - Built numerical tools to verify small cases
  - Presented past and new results at various conferences organised by Rutgers University and Kylerec Symplectic Workshop
  - Participated in workshops organised by Stanford University, Princeton University, Simon Center for Geometry and Physics, Columbia University, Rutgers University
- 08/17 - 08/19 **INDIAN INSTITUTE OF TECHNOLOGY, DELHI** New Delhi, India  
**Blind Navigation in Crowded Unstructured Environment (C++, Java)**
- Built pipeline for real-time navigation using computer vision and machine learning tools
  - Used CUDA library to process data from Microsoft Kinect and used methods such as HOG SVM, RANSAC to process data and extract gait parameters
  - Use Gaussian SVM and KNN to output optimal path from gait analysis of surrounding pedestrian
  - Produced state-of-the-art result in perfect data and low powered model for real-life applications

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** C++, Java, Python

**Languages:** English (fluent), Hindi (native)

# JATIN KOTHARY

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## EDUCATION

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- Expected 12/27 **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
- 05/21 - 11/25 **VELLORE INSTITUTE OF TECHNOLOGY** Vellore, India  
**B.S. in Physics**
- **Coursework:** calculus, differential equations, probability, statistical mechanics, classical mechanics, linear algebra, Lagrange multipliers, quantum mechanics
  - **Honors:** #3 of 19 in class, 1st in Model Solvay Competition IISER Bhopal (Physics)

## EXPERIENCE

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- 01/26 - 06/26 **QUANT FINANCE INSTITUTE** Bangalore, India  
**Quantitative Analyst Intern**
- Developed finite-difference pricing engine for 4 European barrier option variants
  - Incorporated barrier-aware PDE boundary conditions and 5 Greeks
  - Validated through knock-in/knock-out parity and convergence testing
  - Quantified barrier sensitivity by varying barrier proximity from ~25% to ~1% of underlying price, resulting in ~75% reductions in knock-out option valuations

## PROJECTS

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- 09/25 - 12/25 **QUANT FINANCE INSTITUTE** Bangalore, India  
**Pricing Exotic Options in a Regime-Switching Economy (Python)**
- Implemented characteristic function and Fourier inversion methods to price exotic derivatives under regime-switching dynamics
- Oil Futures Volatility Smile Analysis (Python)**
- Analyzed implied volatility smiles in oil futures during 2020 market dislocation, comparing Bachelier and lognormal models under stressed conditions
- Statistical Arbitrage Pairs Trading (Python)**
- Developed market-neutral pairs trading strategy using cointegration tests and Kalman-filtered dynamic hedge ratios
  - Outperformed S&P 500 by 7% with 1.4 Sharpe ratio and 12% maximum drawdown in walk-forward backtesting
- 05/26 - 06/26 **JPMORGAN CHASE & CO** Kolkata, India (Remote)  
**Quantitative Research Job Simulation (Forage)**
- Analyzed loan portfolio to estimate probability of default and key credit-risk factors
  - Transformed FICO scores into features for default prediction and risk segmentation

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Mathematica

**Languages:** English (Fluent), Hindi (Native), Bengali (Fluent)

**Certifications:** Quantitative Finance and Algorithmic Trading (Udemy); Complete Data Science, ML, DL (Udemy)

# VIKTOR LADO NAESS

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## EDUCATION

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|                |                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Expected 12/27 | <b>NEW YORK UNIVERSITY</b><br><b>The Courant Institute School of Mathematics, Computing, and Data Science</b><br><b>M.S. in Mathematics in Finance</b> <ul style="list-style-type: none"><li>• <b>Coursework:</b> machine learning, NLP, optimization</li></ul>                                                                                                                                                 | New York, NY      |
| 08/22 - 05/25  | <b>KTH ROYAL INSTITUTE OF TECHNOLOGY</b><br><b>B.S. in Computer Science</b> <ul style="list-style-type: none"><li>• <b>Coursework:</b> programming, discrete mathematics, linear algebra, calculus</li><li>• <b>Honors/Awards:</b> Graduated #1 in class; only EECS undergrad to receive highest ranked exchange to National University of Singapore (NUS); 2-time recipient of KTH study scholarship</li></ul> | Stockholm, Sweden |
| 08/21 - 05/24  | <b>STOCKHOLM SCHOOL OF ECONOMICS</b><br><b>B.S. in Business and Economics, specializations in Data Analytics and Finance</b> <ul style="list-style-type: none"><li>• <b>Coursework:</b> data analytics, econometrics, corporate finance, statistics, mathematics</li></ul>                                                                                                                                      | Stockholm, Sweden |

## EXPERIENCE

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|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 05/24 - Present | <b>STANFORD UNIVERSITY</b><br><b>Research Intern, Departments of Mathematics and Electrical Engineering</b> <ul style="list-style-type: none"><li>• <b>Prof. Gunnar Carlsson - <u>POS-Structured Embeddings</u>:</b> Integrated part-of-speech embeddings into custom transformer, improving next-token accuracy ~13% on WikiText-2</li><li>• <b>Prof. Mert Pilanci - <u>Muon Optimizer Gradient Reshaping</u>:</b> Showed flattened Newton-Schulz updates cut FLOPs at small scale but degrade GPT-2 small (124M)</li><li>• <b>Prof. Stephen Boyd - <u>Parallel Analytic Center Cutting Plane Method</u>:</b> Demonstrated 2-3x wall-clock speedup on piecewise-linear convex optimization test cases</li></ul> | Stanford, CA           |
| 04/25 - 03/26   | <b>EVERI TECHNOLOGIES</b><br><b>Head of AI (AI/ML startup for prosthetics)</b> <ul style="list-style-type: none"><li>• Developed optimization and machine learning models for prosthetic component selection in collaboration with clinicians and industry experts</li><li>• Built LangChain-based LLM pipelines to support clinician decision making</li></ul>                                                                                                                                                                                                                                                                                                                                                  | Stockholm, Sweden      |
| 10/24           | <b>MCKINSEY &amp; COMPANY / QUANTUMBLACK</b><br><b>McKinsey Weekend Program</b> <ul style="list-style-type: none"><li>• Analyzed and presented strategy recommendations for Neko Health under mentorship from QuantumBlack and McKinsey &amp; Company (full-time offer received)</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                       | London, United Kingdom |
| 10/23 - 12/23   | <b>EQT (SQL, Python)</b><br><b>Research Intern: Founders and Financials - Machine Learning Algorithms in Venture Capital</b> <ul style="list-style-type: none"><li>• Applied Random Forest and XGBoost to assess impact of organizational characteristics on funding success via feature importance and SHAP values</li></ul>                                                                                                                                                                                                                                                                                                                                                                                    | Stockholm, Sweden      |
| 10/23 - 12/23   | <b><u>NORDSTJERNAN</u></b><br><b>Credit Intern</b> <ul style="list-style-type: none"><li>• Conducted credit portfolio review, analysis, and reporting in Excel through VBA automation</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Stockholm, Sweden      |
| 06/23 - 08/23   | <b><u>LEONH INVESTMENT BANK</u></b><br><b>Financial Intern</b> <ul style="list-style-type: none"><li>• Built Leonh Infinity platform, automating financial KPIs, company valuations, and KPIs</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Stockholm, Sweden      |

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, SQL, VBA, Java

**Languages:** English (native), Swedish (native), Norwegian (native)

**Honors:** Wallenberg Scholar, Sweden-America Scholar, Henrik Göransson Scholar

# QIMENG (VALERIA) LI

(858) 518-3196 // valeriali@nyu.edu // linkedin.com/in/qimeng-valeria-li

## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** DSA, computing in finance, financial securities and markets, risk management, stochastic calculus, dynamic asset pricing, machine learning, computational statistics, algorithmic trading and quantitative strategies, active portfolio management
- 09/24 - 06/26 **UNIVERSITY OF CALIFORNIA SAN DIEGO** San Diego, CA  
**B.S. in Mathematics**
- **Coursework:** probability, stochastic processes, linear algebra, multivariate calculus, differential equations, actuarial mathematics, numerical analysis, discrete mathematics and graph theory, financial mathematics, cryptography, abstract algebra, real analysis, number theory
  - **Honors / Other:** Provost Honors for all 6 quarters, graduated in two years

## PROJECTS

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- 03/26 - 06/26 **UNIVERSITY OF CALIFORNIA SAN DIEGO** San Diego, CA  
**Mathematical Software Course Project (Lean)**
- Formalized statements and definitions in Chapter 19 Sets, functions, and continuum hypothesis of *Proofs from THE BOOK* by Martin Aigner and Günter M. Ziegler
  - Conducted research on Cantor's First Diagonal Argument, Cantor's Second Diagonal Argument, and Cantor–Schröder–Bernstein theorem in Mathlib
  - Translated proofs of Schröder–Bernstein theorem, Trichotomy Theorem for Ordinals, Cantor's Theorem on Successor Cardinals, and a Limit Ordinal property from the same chapter into Lean code
- 03/25 - 06/25 **UNIVERSITY OF CALIFORNIA SAN DIEGO** San Diego, CA  
**Numerical Analysis Course Projects (MATLAB, Python)**
- Implemented Classical Gram-Schmidt, Modified Gram-Schmidt, and QR decomposition with reflectors in orthogonalizing the Hilbert matrix, and compared their effectiveness
  - Applied Jacobi Method and Gauss-Seidel Method to approximate linear systems
  - Computed Cholesky factors and inverses of discrete Laplace matrices and Banded SPD Systems
  - Implemented and compared Power Method and Inverse Iteration in finding dominant eigenvectors and computing eigenvalues
- 06/23 - 08/23 **SHANGHAI JIAO TONG UNIVERSITY** Shanghai, China  
**Numerical Models and Applications Research (MATLAB)**
- Analyzed numerical problems with optimization algorithms
  - Visualized restrictions and tolerance issues of Batch Gradient Descent with different datasets
  - Demonstrated Batch Gradient Descent's low computational efficiency with non-ideal starting points
  - Summarized common complementary methods for algorithm optimization

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, MATLAB, Lean

**Languages:** English (fluent); Mandarin (native)

**Certifications:** Financial Engineering and Risk Management from Coursera

# YUTING LIANG

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## EDUCATION

---

- Expected 12/27    **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, risk & portfolio management, financial markets, scientific computing
- 09/22 - 06/26    **UNIVERSITY OF INTERNATIONAL BUSINESS AND ECONOMICS**    Beijing, China  
**B.S. in Financial Engineering (Honors)**
- **Coursework:** time series, numerical methods, machine learning, derivatives modeling
  - **Honors:** Dean's List (Top 1%), World Quant Gold Level, Physics Olympiad Provincial 2nd Prize

## ACADEMIC PROGRAMS

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- 01/25 - 06/25    **STONY BROOK UNIVERSITY (SUNY)**    New York, NY
- **Coursework:** risk management (Ph.D. level), bayesian methods in finance (Ph.D.), quant finance
- 06/24 - 08/24    **UNIVERSITY OF CALIFORNIA, BERKELEY**    Berkeley, CA
- **Coursework:** corporate finance and financial statement analysis, financial derivatives

## EXPERIENCE

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- 03/26 - 06/26    **UBIQUANT**    Beijing, China  
**Quant Developer Intern** (Python, AI Agent Skills & Workflows)
- Developed financial cost allocation platform using Python Flask backend, HTML/JavaScript frontend, and SQL databases, allocating ~30 categories of cost data into PnL across 20+ products
  - Built AI-agent pipeline with separate agents for querying data, parsing allocation rules, and searching the codebase, so the platform could audit existing logic and support new cost types
- 09/25 - 03/26    **Fan Capital**    Beijing, China  
**Quant Researcher Intern** (Python)
- Improved PnL by 15% over traditional time bars in 3-month paper-trading test by implementing volume-sliced automated market-making system in Python using 9 factors
  - Set random forest classifier to predict reversals; introduced new factor upon reversal signals and applied volume-weighted EMA smoothing to reduce factor jumps, improving  $R^2$  by 10%
  - Built automated factor-mining system covering generation, backtesting, and leakage screening; 200+ factors reached production and raised the combined signal's IC by 30%
- 06/25 - 08/25    **Harvest Fund Management**    Beijing, China  
**Data Analyst Intern, Tech Solutions Team** (Python)
- Automated weekly fund sales reports by integrating 5k+ process records from dashboards using Python, generating text and tables across key metrics and reducing manual work by 80%
  - Tracked 400 fund placements across 20 broker apps by converting daily screenshots into 20k+ data and extracting relevant information to identify fund position changes and exposure trends

## PROJECT

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- 03/25 - 05/25    **STONY BROOK UNIVERSITY**    New York, NY  
**Graduate-Level Course Thesis: Deep Hedging for Derivatives with Market Frictions** (PyTorch)
- Built deep hedging framework in PyTorch, generating 100k simulated price paths with transaction costs and training a neural network to hedge options under BS and Heston models
  - Trained deep neural network under 95%-CVaR; compared with classic delta hedging, strategy reduced tail losses by 33% and P&L variance by 25% while matching pricing accuracy
  - Integrated no-transaction band network into framework, replacing direct position outputs with adaptive trading bands to cut redundant trades, cutting training time to 1/20 of original

## SKILLS

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**Programming Languages:** Python (Numpy, Pandas, scikit-learn, PyMC/PyTorch), C++, SQL, MATLAB

**Quantitative Skills:** financial modeling, factor construction, market making & quoting, execution, PnL attribution

# YUTONG (NELLY) LIU

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute of Mathematical Sciences**  
**M.S. in Mathematics in Finance**
- **Coursework:** stochastic processes, derivative pricing, risk management, time series, machine learning
- 09/22 - 05/26 **NEW YORK UNIVERSITY** New York, NY  
**B.A. in Mathematics and Economics**
- **Coursework:** probability, regression analysis, financial accounting, differential equations, real analysis

## EXPERIENCE

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- 06/01 - 08/07 **WELLS FARGO** Charlotte, NC  
**Global Operations Intern (SQL, Tableau, Excel)**
- Analyzed 30,000+ commercial real estate collateral-release requests with SQL and Excel Power Query, reconciling workflow timestamps for cost and capacity analysis
  - Developed rule-based calculations to estimate hands-on processing time across workflow stages, enabling more accurate cost allocation and resource planning
  - Automated recurring data transformation and staff-level clustering in Alteryx, reducing weekly reporting preparation by approximately 2 hours
  - Built 5 Tableau dashboards on cost drivers, resource utilization, cycle time, risk controls, and efficiency for weekly management reporting
- 03/25 - 06/25 **MARS TRADING LLC** Wilmington, DE  
**Quantitative Risk Intern (Python)**
- Analyzed 3 equity and ETF portfolios using historical simulation, Monte Carlo, GARCH, and EVT/GPD methods to compare risk forecasts and downside exposure
  - Calculated expected shortfall, Sharpe and Sortino ratios, maximum drawdown, and CDaR to evaluate performance and support portfolio allocation decisions
  - Applied Shapiro-Wilk, Ljung-Box, Anderson-Darling, Kupiec, and Christoffersen tests to validate distributional assumptions and risk estimates
- 05/24 - 06/24 **ICARUS FUND LLC** New York, NY  
**Data Analyst Intern (Python)**
- Built DCF, pro forma, and Monte Carlo models to forecast operating performance and value portfolio companies for investment review
  - Developed a real-time monitor of top 20 daily gainers using Python APIs and Polygon data, benchmarking performance against industry peers
  - Analyzed public-company financial statements, liquidity, and growth drivers and presented findings through investment-focused charts and reports
- 01/24 - 04/24 **MECHCRAFT TECH INC.** Jersey City, NJ  
**Risk Analyst Intern (Python)**
- Built Python scripts to identify stocks with high index correlation and evaluate systemic exposure, translating results into trading-strategy reports
  - Applied Barra factor model through mfm API to analyze covariance, factor exposure, R-squared, and portfolio performance
  - Developed a multithreaded Python tool that streamlined real-time financial-data processing and improved analysis efficiency by 20%

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, SQL, R

**Technologies:** Microsoft Excel, Power BI, Alteryx, Tableau, LaTeX

**Languages:** English (fluent); Mandarin (native); French (proficient)

# DANIEL FABIAN LUCAS JIMENEZ, CQF, FRM

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## EDUCATION

|                |                                                                                                                                                                                                                                                                                                                                                                                   |                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Expected 12/27 | <b>NEW YORK UNIVERSITY</b><br><b>The Courant Institute School of Mathematics, Computing, and Data Science</b><br><b>M.S. in Mathematics in Finance</b><br><ul style="list-style-type: none"><li><b>Expected Coursework:</b> machine learning, computational statistics, asset pricing, portfolio management, fixed income, algorithmic trading, quantitative strategies</li></ul> | New York, NY        |
| 08/10 – 07/14  | <b>UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO (UNAM)</b><br><b>B.S. in Actuarial Science</b><br><ul style="list-style-type: none"><li><b>Relevant Coursework:</b> calculus, probability, statistics, derivatives pricing, programming</li></ul>                                                                                                                                      | Mexico City, Mexico |

## EXPERIENCE

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 01/23 – 11/25 | <b>BBVA ASSET MANAGEMENT MEXICO</b><br><b>Head of Quantitative Models (Python, R)</b><br><ul style="list-style-type: none"><li>Designed PCA-based sovereign yield curve forecasting integrated with Black-Litterman framework; constructed benchmark for flexible-duration fixed-income fund (\$200M AUM)</li><li>Managed four-member quantitative research team responsible for developing investment strategies across portfolios totaling approximately \$10B AUM (~25% of firm-wide AUM)</li><li>Led weekly investment committee, translating model-driven forecasts for inflation, growth, and monetary policy into cross-asset strategies for fixed income and multi-asset portfolios</li></ul> | Mexico City, Mexico |
| 12/19 – 12/22 | <b>Quantitative Portfolio Manager, Associate (Python, R)</b><br><ul style="list-style-type: none"><li>Developed portfolio optimization frameworks using mean-variance, Black-Litterman, and tracking-error optimization to construct strategic multi-asset benchmarks for institutional portfolios</li><li>Implemented quantitative models, including multivariate Monte Carlo simulation and Random Matrix Theory (RMT) denoising, to evaluate cross-asset strategies and portfolio construction</li></ul>                                                                                                                                                                                           |                     |
| 12/16 – 11/19 | <b>Derivatives and Complex Instruments, Associate (Python, VBA)</b><br><ul style="list-style-type: none"><li>Implemented valuation models for structured notes using Black-Scholes, Monte Carlo, and finite-difference methods while calculating market and liquidity risk measures across portfolios</li></ul>                                                                                                                                                                                                                                                                                                                                                                                       |                     |
| 07/15 – 11/16 | <b>GRUPO FINANCIERO SANTANDER MEXICO</b><br><b>Valuation and Market Risk, Risk Manager Associate (VBA, R)</b><br><ul style="list-style-type: none"><li>Calculated derivative sensitivities (Greeks) and portfolio risk metrics (VaR and CVaR) for equity and fixed income trading desks to monitor market risk exposures and support hedging decisions</li></ul>                                                                                                                                                                                                                                                                                                                                      | Mexico City, Mexico |
| 05/14 – 06/15 | <b>GRUPO BOLSA MEXICANA DE VALORES (BMV)</b><br><b>Interest Rate Curves, Valuation Analyst (VBA, MATLAB)</b><br><ul style="list-style-type: none"><li>Constructed zero-coupon yield curves for THIE and LIBOR interest rate swaps, UDI-THIE basis swaps, and OIS using bootstrapping and Nelson-Siegel extrapolation for derivative valuation</li></ul>                                                                                                                                                                                                                                                                                                                                               | Mexico City, Mexico |

## ACADEMIC EXPERIENCE

|              |                                                                                                                       |                     |
|--------------|-----------------------------------------------------------------------------------------------------------------------|---------------------|
| Fall 2014    | <b>UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO (UNAM)</b><br><b>Adjunct Professor:</b> Introduction to Derivative Pricing | Mexico City, Mexico |
| 04/23, 04/24 | <b>RISKMATRICS FINANCIAL INSTITUTE</b><br><b>Course Instructor:</b> Portfolio Management & Construction               |                     |

## COMPUTATIONAL SKILLS / CERTIFICATIONS

|                |                                                                                                                                                                                                                                                                                                                           |  |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                | <b>Programming Languages:</b> Python, C++, R, MATLAB, VBA                                                                                                                                                                                                                                                                 |  |
| Expected 09/26 | <b>Baruch College MFE / QuantNet:</b> C++ Programming for Financial Engineering                                                                                                                                                                                                                                           |  |
| 08/22          | <b>CFA Program / CFA Institute:</b> Passed CFA Level I                                                                                                                                                                                                                                                                    |  |
| 11/21          | <b>Certificate in Quantitative Finance (CQF) / CQF Institute</b><br><ul style="list-style-type: none"><li><b>Final Project:</b> Long/Short Trading Strategies in the Mexican Stock Market: Design &amp; Backtesting</li></ul>                                                                                             |  |
| 12/20          | <b>Financial Risk Manager (FRM) / Global Association of Risk Professionals</b>                                                                                                                                                                                                                                            |  |
| 07/17          | <b>Society of Actuaries (SOA) / Casualty Actuarial Society (CAS)</b><br><ul style="list-style-type: none"><li><b>Passed Exams:</b> Probability (P), Financial Mathematics (FM), Models for Financial Economics (MFE), Models for Life Contingencies (MLC), Construction of Actuarial and Statistical Models (C)</li></ul> |  |

# LIAM MACNEVIN

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** financial computing, financial securities and markets, risk and portfolio management, stochastic calculus, asset pricing, machine learning, computational statistics
- 09/24 - 10/25 **UNIVERSITY OF TORONTO** Toronto, Canada  
**M.S. in Physics**
- **Coursework:** quantitative stochastic systems, Poisson processes, mechanistic and probabilistic modelling, probability distributions, Prisoner's Dilemma, scientific communication
- 01/20 - 05/24 **UNIVERSITY OF PRINCE EDWARD ISLAND (UPEI)** Charlottetown, Canada  
**B.S. (Hons) in Physics, Minor in Mathematics & Business, Spec. in Medical & Biological Physics**
- **Coursework:** multivariable calculus, programming, linear algebra, differential equations, complex variables, numerical analysis, applied calculus, tensor analysis, random walks
  - **Honors/Awards:** First-Class Standing (GPA of 3.7+ in most recent 60 semester hours); Dean's Honors List (GPA of 3.7+) in 2020-2021 and 2022-2023 academic year
  - **Thesis:** Probing the Physical Properties of Computer Simulated Rigid-Ring Polycatenanes

## EXPERIENCE

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- 09/25 - 07/26 **CASTLE HALL** (Boutique alternative investment diligence firm) Montréal, Canada  
**Data Analyst**
- Performed operational diligence on hedge funds, private equity funds, and their managers, across boutique and large firms, flagging discrepancies against industry standard benchmarks
  - Confirmed public domain and service provider verifications including registry, regulator, cybersecurity, compliance, director, custodian, ISDA, prime broker, and banking verifications
  - Delivered over 100 completed diligence reports to clients in Q4 and over 30 in other quarters
- 09/24 - 08/25 **UNIVERSITY OF TORONTO** Toronto, Canada  
**Graduate Researcher and Lab Instructor (Python)**
- Developed novel model representing behavior of glycated hemoglobin as it relates to diabetes
  - Imagined, designed, and supervised summer project for three undergraduate students in physics
  - Instructed and graded physics for life sciences lab course designed for non-quantitative students
- 05/23 - 09/23 **UNIVERSITY OF PRINCE EDWARD ISLAND (UPEI)** Charlottetown, Canada  
05/22 - 09/22 **Undergraduate Researcher (C, BASH)**
- Utilized C and supercomputer clusters to computationally model polycatenane structures and study effects when subjected to force and torque using Metropolis Monte Carlo simulations
  - Awarded Tindall Stenitz 1st place (2022) for top research presentation and Communication in Science 1st place (2023) for best scientific communication at annual Atlantic Canada conference

## PROJECT

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- 09/24 - 08/25 **UNIVERSITY OF TORONTO** Toronto, Canada  
**A Characteristic Lifetime Model of Glycated Hemoglobin Kinetics (Python)**
- Incorporated more realistic model of red blood cell aging into glycated hemoglobin kinetics
  - Demonstrated convergence to pre-existing model predictions through steady glucose inputs
  - Illustrated deviation from pre-existing model predictions by varying glucose inputs

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, C, BASH Shell Scripting

**Languages:** English (native)

**Publications:** Elastic Properties of Polycatenane Chains and Ribbons; Physical Review E

**Awards:** Ontario Graduate Scholarship (2024), Communication in Science (2023), Tindall Stenitz (2022)

**Activities:** Undergraduate physics teaching assistant and grader at UPEI, Physics Society president at UPEI (2023-2024)

# YUBEI (ALLEN) NI

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute of Mathematical Sciences**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** stochastic calculus, Black-Scholes model, derivatives pricing, portfolio optimization, risk management, Monte Carlo simulation, dynamic asset pricing
- 09/22 - 05/26 **NEW YORK UNIVERSITY** New York, NY  
**B.A., Double Major in Mathematics and Computer Science**
- **Coursework:** probability & statistics, stochastic processes, linear algebra, machine learning, algorithms, data structures, data management, operating systems, software engineering
  - **Honors:** Dean's List (4 semesters)

## EXPERIENCE

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- 06/26 - 07/26 **GUOTAI HAITONG ASSET MANAGEMENT** Shanghai, China  
(Top 2 securities asset management firm in China, \$104B AUM)  
**Quantitative Strategy Intern (Python, Excel)**
- Developed CSI500/1000 futures-ETF switching strategy using discount/premium signals, achieving ~16% annualized returns and over 90% 3-year take-profit probability
  - Priced European put shark-fin structured products using Monte Carlo simulation, PDE methods, and numerical integration; analyzed payoff behavior and Greeks
- 08/25 - 11/25 **DONGHAI FUNDS MANAGEMENT CO., LTD** Shanghai, China  
**Quantitative Research Intern (Python, Excel)**
- Developed and backtested A-share index replication strategy using factor screening and rolling 3/6/12-month PCA, achieving ~0.50% daily tracking error and ~0.90 return correlation
  - Engineered reusable Python MACD diagnostics package and CLI with Excel I/O, multi-series support, domestic EMA seeding, robust NaN handling, and Plotly dashboards
- 07/23 - 08/23 **BANK OF CHINA INTERNATIONAL** Shanghai, China  
**Financial Derivatives Intern (Python, Excel)**
- Analyzed option price series and volatility surfaces using Excel VBA and Python, producing daily market summaries that supported traders' intraday hedging decisions
  - Priced vanilla, spread, straddle, and binary options operating Black-Scholes, Monte Carlo simulation, and implied volatility fitting, achieving average pricing deviation below 2%

## PROJECTS

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- 01/25 - 05/25 **NEW YORK UNIVERSITY** New York, NY  
**Wine Chemical Profiling Using Unsupervised Machine Learning (Python, Excel)**
- Applied PCA, t-SNE, and MDS to 13-feature wine chemistry dataset, identifying 3 principal components explaining 55.4% of variance and visualizing 2D compositional patterns
  - Clustered wines using k-means and DBSCAN, accomplishing silhouette score of 0.60 and detecting 16 chemical outliers across phenolic, color, alcohol, and proline-driven profiles
- 01/25 - 05/25 **Deep Neural Network Modeling for Diabetes Classification and BMI Prediction (Python, Excel)**
- Compared perceptron, feedforward, deep neural network, and CNN models on 70,000 patients, achieving peak AUC of 0.815
  - Extended framework to BMI prediction using dropout, early stopping, and cross-validation, achieving lowest RMSE of 6.01 with sigmoid activation

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, C++, C, R, SQL, MATLAB

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

**Interests:** Piano (Grade 8/10), Chinese calligraphy (Grade 9/10)

# DHRUV SAWANT

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Coursework:** stochastic processes, derivatives pricing (Black-Scholes, binomial trees, interest rate models), risk and portfolio management (VaR, Expected Shortfall, factor models), fixed income and credit derivatives, computational finance (Python, trading systems)
- 08/22 - 05/26 **INDIANA UNIVERSITY** Bloomington, IN  
**The Kelley School of Business**  
**B.S. in Finance**
- **Coursework:** multidimensional real analysis, complex analysis, probability and statistics, linear algebra, market microstructure, time series analysis, corporate finance, economics.
  - **Honors:** Founder's Scholar, Dean's List, Global Engagement Scholarship

## EXPERIENCE

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- 01/26 - 05/26 **INDIANA UNIVERSITY** Bloomington, IN  
**Mathematics Instructor**
- Led discussion sections for undergraduate courses in calculus, probability, and discrete mathematics, reinforcing conceptual understanding through structured problem solving
  - Explained complex mathematical concepts clearly, guiding students through problem sets to improve understanding and exam performance
- 08/24 - 12/24 **Business Analytics Peer Tutor**
- Led biweekly lab sessions for ~40 students, covering business analytics, IT systems and quantitative decision-making skills
  - Taught applied topics including data cleansing, spreadsheet modeling, and Monte Carlo simulations using Excel-based workflows
  - Supported students in hands-on exercises, improving understanding of computational methods in business analytics

## PROJECTS

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- 04/26 – Present **High-Dimensional Options Pricing Solver (Python)** Bloomington, IN
- Implemented Deep BSDE solver in Python to approximate solutions to 100-dimensional Black-Scholes PDE for basket option pricing
  - Analyzed numerical stability and scalability challenges in high-dimensional derivative pricing and stochastic control methods
- 06/25 - 04/26 **Algorithmic Trading System (Python)** Bloomington, IN
- Developed Python-based algorithmic trading system using statistical and ML techniques for alpha generation
  - Implemented Hidden Markov models for regime detection, technical indicators, dynamic position sizing, and rolling-window walk-forward validation
- 01/25 - 01/25 **Insurance Claim Prediction (Python)** Bloomington, IN
- Built regression models with regularization to predict insurance claim sizes using demographic, health, and occupational data
  - Performed exploratory data analysis, feature engineering, and model validation to evaluate predictive performance

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, SQL, R, advanced Excel functions

**Languages:** English (fluent), Hindi (native), Marathi (native), French (conversational)

**Certifications:** Indian Institute of Quantitative Finance (Mumbai, India): Certificate Program in Data Science for Finance; Certificate Program in Artificial Intelligence for Finance

# XIAOKAI (KELLY) SHANG

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** machine learning, computational statistics, stochastic calculus, dynamic asset pricing, risk management, portfolio management, financial securities, financial markets
- 08/22-06/26 **Wuhan University** Wuhan, China  
**B.S. in Finance and B.S. in Mathematics**
- **Coursework:** stochastic processes, operations research, partial differential equations, econometrics, time series analysis, game theory, machine learning, deep learning
  - **Honors/Awards:** National Scholarship (top 1%); Merit Student (top 5%)

## EXPERIENCE

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- 07/26 - Present **GF SECURITIES** Guangzhou, China  
**Quantitative Research Intern (Python)**
- Reconstructed dealer-level bond top 5 order books in Python/Parquet to analyze liquidity, bid-ask spreads, depth imbalance, and yield dynamics
  - Developed and backtested systematic signals for 10Y/30Y Chinese government bond futures using 1-minute data with no-look-ahead validation and transaction costs
  - Built long/short futures strategy with gross Sharpe ratios of 1.45 (T) and 1.83 (TL); asymmetric thresholds achieved net Sharpe ratios of 1.26 and 2.02
- 05/26 - 07/26 **FINOVAX** New York, US (Remote)  
**Quantitative Research Intern (Python, Excel)**
- Processed two years of high-frequency data for AAPL, MSFT, NVDA, XLF, and XLV using Python and Excel, building automated workflow for breakout signals and day forward returns
  - Designed NLP pipeline combining Loughran-McDonald dictionaries and local FinBERT to extract SEC 8-K tone signals and integrate them with price-volume features
  - Conducted time-series cross-validation, finding price-volume signals outperformed textual features in short-horizon return predictions

## PROJECTS

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- 09/25 - 05/26 **WUHAN UNIVERSITY** Wuhan, China  
**Thesis: Deep Learning Correction of Black-Scholes Model**
- Built implied-volatility surface from SSE 50 index options and developed multilayer perceptron calibration model for nonlinear volatility structures
  - Reduced full-sample MAPE from 21.58% to 8.20% by learning flexible correction operator framework for volatility dynamics
- 07/24 - 11/24 **AI and Corporate Finance Research**
- Constructed firm-level AI adoption index using recruitment data, annual-report keyword frequencies, seed-word dictionary, and Word2Vec expansion
  - Estimated effects of AI adoption on disclosure behavior, stock-return volatility, and total factor productivity using regression models

## COMPUTATIONAL SKILLS / OTHER

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**Languages:** English (fluent); Mandarin (native)

**Programming Languages:** C++, Java, MATLAB, Python, R, Stata

**Affiliation:** Vice President, WHU Piano Association

# SINUO (ANGELA) SUN

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** securities valuation, derivatives pricing, mean-variance optimization, dynamic asset pricing, stochastic discount factors, no-arbitrage pricing, risk-return modeling
- 09/22 - 06/26 **UNIVERSITY OF WASHINGTON** Seattle, WA  
**B.A. in Mathematics and B.S. in Computational Finance and Risk Management**
- **Coursework:** measure theory, stochastic processes, probability theory, numerical methods, ordinary and partial differential equations, linear and nonlinear optimization methods

## EXPERIENCE

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- 06/25 - 07/25 **CHINA INTERNATIONAL CAPITAL CORPORATION LIMITED** Beijing, China  
**Quantitative Analyst Intern (Python)**
- Reproduced Kaiyuan Securities' chase-up/sell-off factor framework on 63 months of 1-min data across 5,400+ stocks, improving optimal-factor annualized return by 18.1%
  - Developed new chase-up factors using lagged returns and ARIMA on 1-/5-min data, achieving 59.2% monthly win rate, 8.6% max drawdown, and 1.60 Sharpe
  - Neutralized industry and Barra risk exposures via OLS regression, improving IC by 14.6% and reducing portfolio volatility by 10.9%
  - Visualized factor correlations and quintile spreads, selecting CSI 1000 as target universe
- 06/24 - 08/24 **DEVELOPMENT BANK OF SINGAPORE LIMITED** Shanghai, China  
**Equity Capital Markets Intern (Python)**
- Analyzed weekly energy-sector capital market trends across A-shares, H-shares, U.S. indices, and macro indicators to support issuance window decisions
  - Built rolling-window regression models on 150+ weekly observations of 20+ indices, achieving 12.7% MAPE and 0.73  $R^2$  in Python
  - Supported HK IPO pitching materials and valuation work by researching oil and gas peers, visualizing shareholder structures, and automating data extraction with Python ETL/SQL
- 07/23 - 09/23 **ERNST & YOUNG GLOBAL LIMITED** Shanghai, China  
**Audit Intern**
- Audited 2020–2022 procurement/CAPEX records and 5,000+ documents using Excel VBA, PivotTables, and VLOOKUP to reconcile data and flag compliance mismatches

## PROJECTS

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- 01/26 - 03/26 **UNIVERSITY OF WASHINGTON** Seattle, WA  
**Trading Systems: Refining Short-Term Reversal with Idiosyncratic Volatility (Python)**
- Built weekly dollar-neutral reversal portfolios on S&P 500 daily data (2015–2023), using lagged 5-day returns and IVOL from rolling FF3 residuals
  - Applied dependent double-sort, FF3 regression, Jobson-Korkie, and drawdown tests to compare high-/low-IVOL regimes and diagnose tail risk
- 05/25 - 06/25 **Machine Learning for Finance: Gold Price Analysis (Python)**
- Designed linear, lasso, and ridge regressions on 1,700+ macro/commodity indicators for 1-day-ahead gold ETF forecasting, achieving  $R^2$  of 0.66
  - Built MLP/CNN/RNN forecasting models with random-search tuning; final Nadam/L2 MLP achieved 0.034 RMSE and identified GDX/USDI as key drivers

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, R, SQL, C/C++, MATLAB, JavaScript

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

# ZIXI TAO

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## EDUCATION

---

- Expected 12/2027 **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, machine learning, computing
- 09/2022 - 06/2026 **RENMIN UNIVERSITY OF CHINA** Beijing, China  
**B.S. in Financial Engineering**
  - *Coursework:* econometrics, applied statistics and data analysis, probability theory, mathematical statistics, macroeconomics, microeconomics
  - *Honor:* First Prize, Beijing Division, China Undergraduate Mathematical Contest in Modeling (CUMCM)
  - *Thesis:* Empirical Studies in Market Risk, Liquidity Linkage, and Volatility Modeling

## EXPERIENCE

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- 07/2025 - 09/2025 **ALLIANZ CHINA INSURANCE HOLDING** Beijing, China  
**Risk Management Intern (Python, R, SQL)**
  - Improved consistency of monthly risk reports and control checkpoints by validating VaR and stress-testing workflows across business lines
  - Analyzed credit portfolio exposures with Python and Excel and supported debt classification and repayment-capacity monitoring for 20 corporate borrowers
  - Built structured risk ledgers and automated data checks, reducing manual reconciliation effort and reporting turnaround time
- 12/2024 - 02/2025 **GESHANG ASSET MANAGEMENT** Shenzhen, China  
**Quantitative Research Intern (Python, R)**
  - Conducted rolling performance attribution and risk decomposition for strategy review and processed ETF and market datasets
  - Developed weekly strategy notes and valuation snapshots, supporting portfolio monitoring and investment decision discussions
  - Translated research outputs into concise client-facing materials for internal and external communication

## PROJECTS

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- 03/2026 - 06/2026 **RENMIN UNIVERSITY OF CHINA** Beijing, China  
**ETF Liquidity-Market Risk Linkage Under Tail Regimes (Python)**
  - Modeled conditional volatility with GARCH-family specifications and compared dependence structures with mixed copula frameworks
  - Provided evidence for stress-period liquidity-risk resonance by identifying stronger downside tail dependence across major A-share ETFs
- 09/2025 - 01/2026 **Idiosyncratic Volatility (IVOL) Anomaly Study (Python)**
  - Constructed IVOL-sorted portfolios and tested abnormal returns under CAPM, Fama-French 3-factor, and Carhart 4-factor frameworks
  - Observed persistent low-minus-high IVOL alpha in monthly data, with reduced but significant excess returns after factor controls

## COMPUTATIONAL SKILLS / OTHER

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

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

# GABRIEL VERA

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## EDUCATION

---

- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Coursework:** computing in finance, risk and portfolio management, machine learning and computational statistics, financial securities and markets
- 09/22 - 06/26 **UNIVERSITY OF TORONTO** Toronto, ON  
**B.S. in Applied Mathematics (Specialist), Statistics (Minor)**
- **Coursework:** stochastic processes, time series analysis, probability, PDEs, non-linear optimization, statistics for machine learning, real analysis, linear algebra, econometrics
  - **Teaching Assistant:** Calculus 1 & Calculus 2 for Engineers
  - **Exchange:** Université Paris 1 Panthéon-Sorbonne, Department of Economics

## EXPERIENCE

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- 06/24 - 08/26 **MCAN FINANCIAL GROUP** Toronto, ON  
**Quantitative Analyst, Risk Modeling and Analytics (R, SQL, PBI)**
- Developed internal CRE LGD Forecast and Stress-Testing model in R; achieved 10% accuracy improvement from previous methodology by using logistic, risk-weighted target transformation
  - Deployed PD and ECL model overlays for oil-producing regions, based on WTI price fluctuations that increased model accuracy and interpretability
  - Assessed credit risk for uninsured lending in regions exposed to tariff-impacted sectors using panel regression model, presented results at quarterly meetings with C-Suite executives
  - Modeled 2 years of rate renewal shocks for Canadian fixed-rate uninsured mortgages; used internal and external loan data to forecast expected payment shocks within MCAN's portfolio
  - Led implementation of 20+ Power BI dashboards for credit risk reporting and analytics; automated data intake using SQL and Power Query that eliminated manual data updates
- 09/25 - 04/26 **RISKLAB TORONTO** Toronto, ON  
**Research Assistant (Python)**
- Used Causal AI to predict one-week suicide risk for at-risk people using smartphone data
  - Deployed Heterogeneous Mixture Model and change-point detection for identifying variations in patient behavior; achieved 20% accuracy improvement

## PROJECTS

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- 03/26 - 04/26 **UNIVERSITY OF TORONTO** Toronto, ON  
**PD Modeling (R)**
- Developed PD forecast for Telus Corp. (T.TO) using Black-Scholes-Merton and Credit Matrix models
- 01/26 - 02/26 **Yield Curve Modeling (Python, R)**
- Constructed 5-year implied spot and yield curves for Canadian government bonds
- 11/25 - 12/25 **Applied Time Series Forecasting Paper (R)**
- Fit ARIMA model to DJIA stock index to forecast its future price using Innovations Algorithm
- 09/25 - 12/25 **Capstone Econometrics Paper: The Role of Bank Branch Density in Credit Use (Stata)**
- Used clustered GLS model in Stata to determine role of physical banking infrastructure for consumer access to credit across 89 countries

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** R (tidyverse), Python (numpy, scipy, pandas, matplotlib, scikit-learn), Power BI (DAX), Excel (VBA), Stata

**Spoken Languages:** English (native), French (native), Spanish (native)

**Interests:** Chess (Ranked in top 1% of players globally), Golf (18 handicap)

# TANGJUNJIE (JADON) WANG

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## EDUCATION

---

- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Coursework:** computing in finance (Python), stochastic processes, machine learning, derivatives pricing, portfolio optimization, risk management
- 09/22 - 06/26 **HUNAN UNIVERSITY** Changsha, China  
**B.B.A. in Financial Management (Financial Engineering)**
- **Coursework:** ODEs, probability & statistics, data structures & algorithms, stochastic processes, econometrics, artificial intelligence, asset pricing, Black-Scholes and the Greeks
  - **Honors/Awards:** Honors Graduate; 1st-Class Scholarship (top 6%); MCM M Award (Top 6%)

## EXPERIENCE

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- 03/26 - 06/26 **HANGZHOU YICHEN FUND MANAGEMENT CO., LTD.** Shanghai, China  
(Multi-Strategy Hedge fund with ~\$1B AUM)  
**Quantitative Research Intern (Python)**
- Developed cross-sectional strategy leveraging 157 features and panel LASSO with sector-neutral constraints and market timing to achieve 1.71 Sharpe ratio
  - Engineered multi-horizon momentum and trend-quality filters, constructing trend-following portfolio with 21.0% annualized return and 1.46 Sharpe ratio
  - Uncovered nonlinear trading signals across futures markets, formulating nonferrous metals ETF strategy with Sharpe ratio of 2.74, by employing genetic programming
  - Implemented intraday trading models utilizing quantile-channel and temporal filtering mechanisms, delivering 13.0% annualized return and 1.54 Sharpe ratio in energy-related ETFs
- 09/25 - 02/26 **SHENWAN HONGYUAN SECURITIES CO., LTD.** Shanghai, China  
(Top 5 Chinese Securities Firms by Proprietary Trading Revenue)  
**Proprietary Quantitative Research Intern (Python)**
- Built factor research and backtesting infrastructure using IC analysis and long-short portfolio evaluation for equities and futures
  - Developed genetic-programming alpha mining framework, integrating robust time-series operators and panel-data processing
  - Generated strategies with 11.4% out-of-sample annualized return and 9.7% maximum drawdown by combining trend and volatility signals via cross-sectional ridge regression.
- 07/25 - 09/25 **HANGZHOU WISLINKER TECHNOLOGY CO., LTD.** Hangzhou, China  
(Leading Industrial AI Software Provider)  
**Computer Vision Algorithm Intern (Python, C++)**
- Augmented industrial defect datasets, generating 120,000+ training samples and 5,000 labeled key-point observations
  - Trained ResNet18-based classification models that reduced false-positive from 8% to rates below 2% while improving defect detection accuracy
  - Fine-tuned MAE-Large and DINOv3 models, achieving superior representation quality and outperforming conventional CNN baselines

## PROJECT

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- 06/26 - present **WORLDQUANT BRAIN** Remote  
**Quantitative Alpha Research (Gold Medalist)**
- Developed equity alpha factors integrating fundamental, alternative, and derivatives data, winning a Gold Medal for discovering 10 highly robust signals verified by simulation

## COMPUTATIONAL SKILLS / OTHER

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

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

# QIUFAN (AMBER) WU

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** computational finance; risk management; portfolio management; securities markets; stochastic calculus; dynamic asset pricing
- 09/23 - 06/26 **PEKING UNIVERSITY** Shenzhen, China  
**M.S. in Computer Applied Technology**
- **Coursework:** artificial intelligence; advanced programming; computer vision; algorithms; computational complexity; blockchain systems
- 09/19 - 06/23 **DALIAN UNIVERSITY OF TECHNOLOGY** Dalian, China  
**B.E. in Software Engineering**
- **Coursework:** data structures and algorithms; probability and statistics; linear algebra; operating systems; databases; software engineering; computer networks
  - **Honors:** National Scholarship; Gold Award, National Girls' Contest of China Collegiate Programming Contest

## EXPERIENCE

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- 08/25 - 10/25 **CHINA SECURITIES CO., LTD.** Beijing, China  
**Quantitative Research Intern (Python)**
- Constructed monthly investable universe of 80-100 liquid A-share new energy stocks using Python, AkShare, daily market data, quarterly financials, and liquidity filters
  - Engineered 35+ candidate alpha factors across momentum, reversal, valuation, profitability, growth, volatility, and liquidity dimensions for cross-sectional stock selection
  - Controlled unintended size, liquidity, and sub-sector exposures in factor testing to distinguish stock-specific alpha from sector-level risk premia
  - Evaluated factor efficacy using rank IC, ICIR, IC decay, quantile return spread, and walk-forward out-of-sample backtesting with turnover and transaction-cost assumptions

## PROJECTS

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- 01/25 - 05/25 **PEKING UNIVERSITY** Shenzhen, China  
**First Author, IEEE ASSIC 2025**  
**[FDLLaMa: Unlocking the Potential of Finance-Aware LLaMA in Combating Fraud](#) (Python)**
- Built FDLLaMA framework for financial statement fraud detection by fusing FinBERT domain embeddings with LLaMA representations on SEC 10-K / MD&A textual data
  - Fine-tuned LLaMA adapters with LoRA while freezing FinBERT encoder; fused FinBERT and LLaMA outputs through MLP classifier with cross-entropy loss
  - Benchmarked against LR, RF, SVM, ANN, HAN, GPT-2, and FinBERT baselines; achieved 0.92 precision, 0.94 recall, and 0.93 F1-score with ablation-tested embedding and residual modules
- 07/24 - 01/25 **Multi-Factor Signal Construction and Out-of-Sample Backtesting (Python)**
- Built reusable research pipeline for 40+ cross-sectional alpha signals on approximately 1,000 liquid A-share stocks using daily market data, lagged financials, and multi-horizon return labels
  - Compared equal-weighted, IC-weighted, rank-aggregation, and regression-based factor combinations to assess incremental predictive power over single-factor signals
  - Validated signal robustness through rank IC, ICIR, IC decay, quantile monotonicity, holding-period stability, turnover analysis, and walk-forward out-of-sample backtesting

## COMPUTATIONAL SKILLS / OTHER

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**Programming Skills:** C++, Python (NumPy, pandas, PyTorch, scikit-learn, and statsmodels), MATLAB  
**Languages:** English (fluent), Mandarin (native), and Japanese (basic)

# HANLIN YAN

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## EDUCATION

- Expected 12/27 **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, option and derivative pricing, machine learning and computational statistics, risk and portfolio management, computing in finance, alternative data, time series analysis, statistical arbitrage, fixed income market
- 09/22 - 05/26 **NEW YORK UNIVERSITY** New York, NY  
**College of Arts and Sciences**  
**B.A. in Mathematics & Computer Science, Minor in Business Studies**
- **Coursework:** probability theory, mathematical statistics, calculus, linear algebra, software engineering, machine learning, numerical analysis, basic algorithms, OOP
  - **Honors/Awards:** Dean's List, Accelerated BS-MS track 50% scholarship

## EXPERIENCE

- 06/25 - 09/25 **HEJI FUND** Shanghai, China  
**Quantitative Research Intern (PyTorch, DDP)**
- Co-developed time-series ML models such as FactorGCL, Double Ensemble, and TimeMixer for convertible bond pricing and alpha generation
  - Solved low signal-to-noise and drifting problems by reading and reproducing several time-series papers in ICML and ICLR
  - Optimized model architecture and adjusted rolling window based on 1-minute and 5-minute data to align with project pipeline, achieving 15% decrease in MSE on out-of-sample data
  - Trained model on GPUs using distributed-data-parallel and predicted for following years, resulting in 2.7 Sharpe ratio on long-short backtest engine
- 06/24 - 09/24 **CITIC SECURITY** Fuzhou, China  
**Marketing Department Intern**
- Conducted research on 15 peer brokerages' fee structures, asset management offerings, and sales strategies; synthesized findings to support pricing and product positioning decisions
  - Maintained and cleaned client databases, identifying 30 data inconsistencies and improving reporting accuracy for downstream teams

## PROJECTS

- 01/26 - 5/26 **NEW YORK UNIVERSITY** New York, NY  
**Moodify (Flask, FastAPI, MongoDB)**
- Developed and deployed collaborative software system, Moodify (AI-mood weather music recommender), with structured Git workflow and team-based development practices
  - Designed and implemented debugging and testing pipelines to detect and resolve functional issues in application modules
  - Collaborated in code reviews and iterative development cycles under agile-style team coordination
- 09/25 - 11/25 **BARUCH COLLEGE** New York, NY  
**MFE Project in Option Pricing (C++, Boost)**
- Designed and implemented modular option pricing system in C++ supporting European and American options using object-oriented architecture
  - Built pricing engines based on Black-Scholes closed-form solution, Monte Carlo simulation, and finite difference PDE methods
  - Built Excel-based visualization tools for Greeks and implied volatility surface analysis

## COMPUTATIONAL SKILLS / OTHER

**Programming Languages:** Python (PyTorch/DDP, NumPy, Pandas, Matplotlib), Java, C++ (Boost, STL), Jupyter Notebook, SQL (MySQL), MATLAB, LaTeX, Git, Linux

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

**Certifications:** Baruch C++ Level 10 Certification, Numerical Linear Algebra Certification

**Interest:** Vocal performance (Passed China National Social Art Proficiency Examination Grade 10)

# ZHIYUAN (ERIC) YANG

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## EDUCATION

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- Expected 12/27 NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Forthcoming Coursework:** stochastic calculus, time series analysis, scientific computing, risk and portfolio management, dynamic asset pricing, algorithmic trading, equity derivatives
- 09/22 - 05/26 NEW YORK UNIVERSITY SHANGHAI** New York, NY and Shanghai, China  
**B.S. in Mathematics and Data Science**
- **Coursework:** machine learning, linear algebra, probability & statistics, ordinary differential equations, real analysis, numerical analysis, data structures, math modeling
  - **Honor:** JiaHua Global Talent Scholarship recipient

## EXPERIENCE

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- 06/26 - 08/26 BEIJING YIYUANDA INVESTMENT MANAGEMENT CO., LTD** Beijing, China  
**Investment & Quant Research Intern (Python, SQLite, Streamlit)**
- Conducted buy-side research covering 3 leading hyperscalers (AWS, Microsoft Azure, Google Cloud), evaluating AI infrastructure demand, cloud monetization, and competitive positioning
  - Analyzed 20+ earnings calls, industry conferences, and company disclosures to assess AI CapEx, competitive dynamics, and market trends
  - Designed daily U.S. screening framework covering 5,000+ listed stocks to identify abnormal price-volume behavior and generate early-stage research ideas before fundamental catalysts
- 05/25 - 08/25 BEIJING SMARTPAY TECHNOLOGY CO., INC.** Beijing, China  
**Quantitative Research Intern (Python, SQL)**
- Conducted quantitative factor research using Python and SQL, constructing and evaluating factor datasets to support alpha signal exploration and quantitative strategy research
  - Built web scraping pipelines to collect structured and semi-structured financial data, improving research data coverage and enabling daily updates for downstream quantitative analysis
  - Engineered features through data preprocessing and missing-value treatment, improving dataset consistency and supporting more reliable factor testing and model development
- 05/24 - 07/24 WESTERN SECURITIES** Shanghai, China  
**Wealth Management Intern**
- Supported front-office operations across wealth management, coordinating client onboarding, product documentation, and compliance procedures for retail investment services
  - Partnered with relationship managers to support investment advisory and portfolio allocation discussions, facilitate trade execution, and assess client suitability assessments

## PROJECT

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- 11/25 - 04/26 NYU SHANGHAI** Shanghai, China  
**Malliavin Calculus for Path-Dependent Option Pricing and Greeks (Python, Latex)**
- Evaluated Malliavin-based Greeks for path-dependent options where conventional finite-difference methods can be less effective
  - Connected stochastic calculus of variations with computational finance applications in option pricing and risk sensitivities
- 03/26 - 05/26 Generative Modeling of Fluid Dynamics (Python, PyTorch)**
- Developed ControlNet-LoRA pipeline that converted CFD smoke simulations into photorealistic sequences while preserving flow structure

## COMPUTATIONAL SKILLS / OTHER

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

**Languages:** English (fluent); Mandarin (native)

# JIABAO YE

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## EDUCATION

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- Expected 12/27    **NEW YORK UNIVERSITY**    New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Forthcoming Coursework:** stochastic calculus, dynamic asset pricing, derivatives pricing, portfolio optimization, risk management, financial computing
- 08/22 - 05/26    **CARNEGIE MELLON UNIVERSITY**    Pittsburgh, PA  
**B.S. in Statistics & Data Science and Economics**
- **Coursework:** machine learning, advanced regression, Markov chain, probability theory, differential equations
  - **Honors/Awards:** Dean's List, University Honors, Phi Beta Kappa Honor Society

## EXPERIENCE

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- 07/26 - 09/26    **ZEUSPACE GROUP**    Hong Kong SAR  
**Quantitative Research Intern (Python)**
- Developed MCTS-guided LLM agent framework for interpretable crypto factor discovery, improving Sharpe ratio by 15% with reproducible evaluation and experiment tracking
  - Built point-in-time Binance Spot/Perp stack to test cross-sectional and time-series price-volume factors with significance, redundancy, OOS, and cost controls
  - Analyzed 15-minute BTC sentiment and attention data using lead-lag analysis, HAC inference, and robustness tests under API noise and structural shifts
- 05/25 - 08/25    **CHINA UNIVERSAL ASSET MANAGEMENT**    Shanghai, China  
**Quantitative Research Intern (Python, SQL)**
- Took initiative to engineer enhanced indexing strategy for CSI 300/500/1000 using linear programming, systematically minimizing tracking error below 7% mutual fund regulatory cap
  - Researched price-volume factors; enhanced multi-factor model performance by testing 5+ combination methods (e.g., decay, stacking), improving IR by ~25%
  - Built factor evaluation pipeline executing winsorization/standardization, quantile-sorted backtesting, monotonicity tests, sensitivity analysis, and Barra style/industry neutralization
- 05/24 - 08/24    **CHINA FORTUNE SECURITIES**    Shanghai, China  
**Quantitative Research Intern (Python, SQL)**
- Architected monthly rotation strategy between SSE 50 ETF and CSI 500 ETF with composite congestion metric; used historical-percentile triggers for full-allocation switches
  - Applied SQL and Python to clean and validate 8M-record dataset, including null-value imputation and outlier filtering

## PROJECTS

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- 01/25 - 05/25    **KAGGLE COMPETITION**    Pittsburgh, PA  
**Credit Default Risk**
- Engineered machine learning pipeline for credit default risk assessment, utilizing SMOTE for class-imbalance correction and PCA for dimensionality reduction
  - Evaluated and benchmarked logistic regression, neural networks, and XGBoost architectures; applied threshold optimization to achieve peak test-set AUC of 0.741
- 01/25    **MATHEMATICAL CONTEST IN MODELING**    Pittsburgh, PA  
**Models for Olympic Medal Tables**
- Developed predictive modeling framework for Olympic medals, earning honorable mention
  - Applied random forest, Markov chain, and logistic regression models to forecast medal counts, medal state transitions, and first medal winners

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, R, SQL, C++

**Languages:** English (fluent); Mandarin (native)

# DAGMAWI (DAGI) ZERIHUN

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## EDUCATION

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- Expected 12/27 **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, high-frequency data systems, arbitrage and risk-neutral valuation, options pricing, interest rate derivatives, portfolio and risk management, value-at-risk, financial machine learning, financial econometrics, fixed income modeling
- 08/20 - 05/24 **DENISON UNIVERSITY** Granville, OH  
**Dual Major B.A. in Computer Science and Economics**
- **Coursework:** data structures, algorithm design and analysis, discrete mathematics, computer architecture, investment and asset pricing, econometrics, financial modeling, NLP
  - **Honors:** Cum Laude, Dean's List (2022-24), Anderson Scholar '22, Economics Senior Departmental Fellow '24, Omicron Delta Epsilon, Denison Alumni Scholar

## EXPERIENCE

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- 05/23 - 08/23 **NCR CORPORATION** Atlanta, GA  
**Software Engineer Intern (Java, JS)**
- Designed and implemented spending analysis and financial reporting feature for NCR's digital banking app used by 80+ banks and credit unions
  - Engineered and integrated frontend and backend components using Spring framework and Maven
  - Conducted testing and refinement of data processing logic during feature integration, identifying edge-cases and contributing to debugging within large production codebase
- 05/22 - 09/22 **DENISON UNIVERSITY DEPARTMENT OF COMPUTER SCIENCE** Granville, OH  
**Research Assistant (Python, LaTeX)**
- Investigated extensions of  $\epsilon$ -indistinguishability query beyond linear utility assumptions, focusing on non-linear convex and concave polynomial utility functions
  - Contributed to design and analysis of interactive query procedures that approximate user's unknown utility function through repeated pairwise comparisons
  - Developed multi-phase algorithm estimating attribute weight coefficients and non-linear exponent parameters to 3 decimal places of precision
  - Established improved approximation accuracy with additional user interaction rounds, achieving 11.89-factor approximation bound after 61 rounds of comparisons

## INDEPENDENT PROJECTS

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- 11/25 - 01/26 **Cointegration Based Statistical Arbitrage (Python)** Addis Ababa, Ethiopia
- Backtested a cointegration-based pairs-trading strategy across S&P 500 financials, measuring out-of-sample performance and degradation from in-sample results
- 10/25 - 01/26 **Deep Reinforcement Learning for Options Hedging (Python)** Addis Ababa, Ethiopia
- Trained PPO agent for dynamic options hedging, benchmarked against Black-Scholes delta hedging under transaction costs and discrete rebalancing

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** C/C++, Python, Java, SQL, R

**Additional Coursework:** Linear algebra, differential equations, applied probability, real analysis (Johns Hopkins University Krieger School of Arts and Sciences, visiting student, 01/25 - 05/26)

**Languages:** English (fluent), Amharic (native)

**Affiliations:** SEO Career Fellow (2022-2024)

# WEIZHI (MICHAEL) ZHAO

weizhi.zhao@nyu.edu // linkedin.com/in/weizhizhao

## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Expected Coursework:** portfolio optimization, derivative pricing models, distributed computational finance
- 09/22 - 07/26 **UNIVERSITY OF INTERNATIONAL BUSINESS AND ECONOMICS** Beijing, China  
**B.S. in Actuarial Science**
- **Coursework:** stochastic processes, C++ and Python programming, big data analytics, probability and statistics, differential equations, financial mathematics
  - **Awards:** National Second Prize (Beijing First Prize), China Undergraduate Mathematics Contest

## EXPERIENCE

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- 06/25 - 08/25 **CHINA SECURITIES** Shanghai, China  
**Quantitative Research Intern (Python, LLM APIs)**
- Integrated alternative unstructured news data from 50+ sources to extract complementary alpha, effectively supplementing traditional lagging price-volume models
  - Developed end-to-end framework, transforming raw news into AI macro factors via iterative prompt engineering, hybrid LLM-human annotation pipeline, and BERT fine-tuning
  - Integrated AI macro factors into asset allocation, increasing Sharpe by >55% and reducing MaxDD by >25%
- 04/25 - 06/25 **SHENZHEN QUANTITATIVE HEDGE INVESTMENT MANAGEMENT** Beijing, China  
**Quantitative Research Intern (Python, PyTorch)**
- Resolved serial correlation and heteroskedasticity issues in original time-bar sampling by incorporating tick-bar and volume-bar data
  - Designed hierarchical attention architecture to resolve standard transformer limitation of ignoring cross-event relationships by adding dedicated layer for inter-event dependency
  - Boosted annualized excess return to 25.56% (3.48pp gain) and elevated IR from 3.93 to 4.25
- 01/25 - 03/25 **FEDGE CAPITAL** Beijing, China  
**Quantitative Research Intern (Python)**
- Developed suite of 50+ alpha factors from minute-frequency intraday price and volume data to identify short-lived market anomalies
  - Built adaptive modeling framework to dynamically select optimal algorithm combinations (8 predictors, 4 anomaly detectors) within rolling windows
  - Achieved 18% annualized return with 2.5 Sharpe, maintaining MaxDD below 8%

## PROJECT

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- 02/25 - 05/25 **KAGGLE** Online  
**Drawing with LLMs Competition, Silver Medalist, Top 3%, 43rd of 1,309 teams (Python)**
- Optimized text prompts via semantic expansion and keyword supplementation to enforce cartoon-style generation
  - Produced multiple candidate images using Stable Diffusion 3.5 Large Turbo while diversifying outputs via dynamic seed scheduling
  - Converted raster images to lightweight SVGs (<100 KB) through feature extraction, adaptive color quantization, and path simplification

## COMPUTATIONAL SKILLS / OTHER

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

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

**Certifications (via Coursera):** Financial Engineering & Risk Management (Columbia University); Deep Learning (DeepLearning.AI); Machine Learning (University of Washington); Numerical Methods in Python (LMU Munich)

# YUHAO ZHU

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## EDUCATION

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- Expected 12/27 **NEW YORK UNIVERSITY** New York, NY  
**The Courant Institute School of Mathematics, Computing, and Data Science**  
**M.S. in Mathematics in Finance**
- **Coursework:** Python programming, financial securities, risk management, portfolio management, stochastic calculus, dynamic asset pricing, numerical methods
- 08/22 - 05/26 **BOSTON UNIVERSITY** Boston, MA  
**B.S. in Applied Mathematics and Computer Science**
- **Coursework:** probability, stochastic processes, applied statistics, numerical analysis, linear algebra, differential equations, multivariable calculus, algorithms, artificial intelligence, database systems, computer systems

## EXPERIENCE

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- 05/25 - 07/25 **MINT FINANCE** New York, NY  
**Quantitative Research Analyst Intern (Python, Tableau)**
- Built momentum backtesting pipeline in Python using Yahoo Finance data; engineered MACD, RSI, and candlestick signals to evaluate indicator performance across market regimes
  - Identified top 5 strongest technical indicators for further strategy testing; visualized multi-year signal performance in Tableau dashboards
  - Synthesized SEC filings and market-moving news into daily reports linking catalysts to price action and quantitative signal behavior
- 07/24 - 08/24 **CITIC SECURITIES** Beijing, China  
**Bond Underwriting Intern (Excel)**
- Compiled and standardized issuer data in Excel for 30+ bond issuers across 10+ industries, including repayment history, audit opinions, and key financial metrics
  - Reviewed issuer rating worksheets for missing or inconsistent entries, flagged issues for senior review, and supported due diligence by summarizing credit, compliance, and issuer-specific risks
- 06/23 - 08/23 **YUANHUI INVESTMENT MANAGEMENT** Beijing, China  
**Sales and Quantitative Research Intern (Excel)**
- Analyzed market indicators and fund-product positioning to support factor research for quantitative hedging strategy discussions
  - Prepared client-facing presentations and investment proposals; coordinated investor outreach and daily sales support for fund products

## PROJECTS

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- 09/25 - 05/26 **INDEPENDENT QUANTITATIVE RESEARCH PROJECT** Boston, MA (Remote)  
**Quantitative Client Stock Activity Analysis (Python)**
- Cleaned, merged, and validated multi-table client stock datasets using Python, Pandas, and NumPy under mentorship of Bank of America vice president
  - Analyzed client activity by ranking accounts by market value, identifying actively traded stocks, comparing trading behavior across periods, and building regression and correlation analyses
- 12/24 - 05/25 **INDEPENDENT QUANTITATIVE RESEARCH PROJECT** Boston, MA (Remote)  
**Adaptive Factor-Based Investment Strategy Analysis (Python)**
- Developed Python factor investing framework using S&P 500 and ETF data to generate regime based factor allocation signals under mentorship of a Citadel quantitative researcher
  - Backtested equal-weight, beta-weighted, and VIX-regime models; achieved 1.82 Sharpe ratio, 21.4% annualized return, and 11.8% volatility

## COMPUTATIONAL SKILLS / OTHER

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**Programming Languages:** Python, Java, C, SQL

**Languages:** English (fluent); Mandarin Chinese (native); Japanese (intermediate)

# ZHENGHAN ZHU

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## EDUCATION

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- Expected 12/27    **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; asset pricing; portfolio management
- 04/22 - 03/26    **INSTITUTE OF SCIENCE TOKYO**    Tokyo, Japan  
**B.S. in Mathematics**
  - *Coursework:* real analysis; differential equations; Martingale theory
  - *Honors:* Institute of Science Tokyo Scholarship for Outstanding International Students (2022, 2024, 2025); MEXT Honors Scholarship

## EXPERIENCE

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- 09/25 - 02/26    **INSTITUTE OF SCIENCE TOKYO**    Tokyo, Japan  
**Co-First Author, LLM Model Editing Research (Python)**
  - Developed analytical framework, converting sequential rank-one model edits into discrete dynamical system
  - Derived recurrence relations, predicting exponential norm growth and model collapse in LLaMA3 and GPT-J
  - Built Norm Anchoring Scaling (NAS), improving average sequential editing performance by 72.2% with negligible computational overhead
- 09/25 - 10/25    **ZHESHANG SECURITIES CO., LTD.**    Shanghai, China  
**Quantitative Strategy Intern (Python)**
  - Synthesized semiconductor value chain research and market indicators into daily reports for senior strategy team
  - Prepared structured data inputs for investment research, including analysis of two proprietary sentiment factors with 3.5% simulated excess returns
  - Monitored multiple core factors (including valuation, growth, momentum) to support daily strategy research

## PROJECT

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- 07/24 - 09/24    **EXCELIZE OPEN-SOURCE PROJECT**    Hangzhou, China (Remote)
  - Engineered Excel DOLLAR() function in Go for Excelize, an open-source library with over 20,000 GitHub stars
  - Extended number-formatting logic to handle precision rounding and currency syntax, with 100% consistency against Microsoft Excel
  - Developed unit tests to validate formula behavior across diverse inputs and maintain reliability in collaborative codebase

## COMPUTATIONAL SKILLS / OTHER

---

*Programming Languages:* Python; C++

*Languages:* English (fluent); Mandarin (native); Japanese (fluent)

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MathFin's Office of Career Services at:  
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