

JP PENG

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EDUCATION

North Carolina State University

Master of Financial Mathematics (GPA: 3.82/4.0)

Relevant Coursework: Stochastic Calculus, Derivatives Pricing, Monte Carlo Simulation, Machine Learning, Operational Research, Statistical Inference & Modeling, Quantitative Trading, Yield Curve Bootstrapping & Fixed Income, Time Series

Raleigh, NC

December 2025

University of California, Irvine

Bachelor of Science, Mathematics (GPA: 3.6/4.0)

Bachelor of Arts, Business Administration, Emphasis in Finance (GPA: 3.6/4.0)

Relevant Coursework: Partial Differential Equations, Advanced Linear Algebra, Vector Calculus, Stochastic Processes, Real & Complex Analysis, Business Management, Business Analytics, Discounted Cash Flow (DCF) Analysis, Excel Modeling, International Finance, Supply Chain Modeling,

Irvine, CA

June 2024

PROFESSIONAL SUMMARY

Quantitative Researcher and Financial Mathematics graduate with a strong foundation in financial modeling, quantitative analysis, and systematic trading. Experienced in DCF valuation, cash-flow forecasting, scenario analysis, and Excel-based financial modeling, alongside Python/SQL-driven time-series modeling, Monte Carlo simulation, risk attribution, volatility forecasting (GARCH/EGARCH), and portfolio optimization. Built production-grade data pipelines, backtesting frameworks, and risk models for equities and derivatives with robust out-of-sample performance.

WORK EXPERIENCE

Ubiquant

Quantitative Developer Summer Analyst

Tsinghua Science Park, Beijing

July 2025 – August 2025

- **Orchestrated** vectorized Python pipelines for large-scale trade & market data, accelerating research and portfolio analytics
- **Conducted** implementation shortfall and transaction cost analysis to evaluate execution quality and reduce slippage
- **Developed** order-trade reconciliation tools to improve accuracy of portfolio P&L and performance attribution
- **Automated** reporting dashboards for trading, P&L attribution, and real-time risk monitoring to support portfolio decisions

Ubiquant

Quantitative Researcher Summer Analyst

Tsinghua Science Park, Beijing

April 2025 – July 2025

- **Architected** SQL Server–Python (PYODBC) equity data warehouse; replicated 101 Formulaic Alphas signals with liquidity filters
- **Selected** factors via IC tests and Fama–MacBeth regressions for systematic portfolios
- **Modeled** volatility with EGARCH & regime-switching Gaussian HMM to dynamically scale exposures
- **Applied** Barra risk model (MSCI CNE5) & PCA risk-parity optimization; achieved Sharpe 1.2, max DD 6%, 14.4% return

Safran Cabin, Inc.

Supply Chain Strategic Purchasing Intern

Huntington Beach, CA

June 2023 – September 2023

- **Streamlined** statistical demand forecasting and cost analysis using Excel VBA to optimize inventory and supplier decisions
- **Calibrated** supply and P&L forecasts through Excel VBA to support budget planning and operational efficiency improvements
- **Negotiated** aerospace vendor contracts and optimized procurement costs by 7.2% using quantitative analysis

PROJECTS

Multi-Alpha Trading Strategy & Portfolio Management (Project Leader)

August 2025 – December 2025

- **Led** a team of seven to implement a daily-frequency trading strategy of the U.S. Nasdaq equities using fundamental trading signals
- **Vectorized** core features utilizing Python Pandas and NumPy; applied Student-t hypothesis testing for signal reliability
- **Analyzed** stock periodic movements through ACF/PACF time series lag tests & adjusted to Newey-West testing statistics accordingly
- **Delivered** 1.4 strategy Sharpe, max DD 8%, 16.8% total return over a 2-year backtesting period

iSoftstone Stock Monte Carlo Simulation Jump Diffusion GBM

January 2025 – March 2025

- **Constructed** Monte Carlo jump-diffusion simulation engine for tail-risk modeling and portfolio VaR stress testing
- **Accelerated** large-scale simulations using variance reduction techniques (Antithetic, Control Variates)
- **Priced** and valued iSoftstone convertible bond under DCF & Black-Scholes; evaluated hedging strategies for downside risk

Forecasting Bitcoin: A Comparison of Time Series & Machine Learning Approaches

August 2024 – December 2024

- **Designed** crypto time-series pipeline with lagged features for volatility modeling
- **Quantified** conditional volatility using GARCH/EGARCH and XGBoost, achieving ~0.90 R² out-of-sample
- **Benchmarked** models via walk-forward holdout tests to select robust, production-ready signals

Iowa Housing Price Prediction

August 2024 – October 2024

- **Engineered** structured housing dataset with encoding, imputation, normalization, and feature selection; built end-to-end ML pipeline
- **Trained** and tuned Ridge/Lasso regressions with cross-validation and regularization; achieved ~0.90 R² and low MAE out-of-sample
- **Cross-validated** model for real-time price inference and feature attribution, delivering ~13% live forecasting error

S&P 500 Return Variance Decomposition Principal Component Analysis (PCA)

Dynamic Deep Hedging Trading Strategy

Risk-Free Rate Change Forecasting – A Machine Learning Approach

SKILLS

- **Programming & Technical:** Python (NumPy, Pandas, Scikit-Learn, SciPy, Numba), SQL, R, Matlab, SAS, Machine Learning: PCA, Linear/Logistic Regression, Random Forest, XGBoost, K-means & KNN, SVM, LSTM
- **Software:** DBEaver, Microsoft SQL Server, Excel (Financial Modeling, VBA), Bloomberg Terminal, Interactive Brokers
- **Language:** Bilingual: English & Mandarin