WEI (WILLIAM) CHEN

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EDUCATION

UCBB Madison School of Management — Bar Bara, CA
Master of Financial Engineering — GPA: 3.38/4 — December 2025
Relevant Courses: Time Series, Fixed-Income Markets, and Machine Learning

The English University of Hong Kong — Hong Kong
B.A., Business Administration, Minor in Statistics — December 2022
Relevant Courses: Non-Parametric Statistics, Time Series, and Deep Learning

SKILLS & PROFESSIONAL CERTIFICATIONS

Technical Skills: Python (NumPy, Pandas, Scikit-learn, Polars and Numba), SQL, and Git
Certifications: SOA Exam QFIQF
Other Skills: Monte Carlo Simulation, Prompt Engineering, and Data Cleaning

PROFESSIONAL EXPERIENCE

Proton Capital Management — United States
Quantitative Research Intern — June 2025 – September 2025

- Developed a systematic screening workflow for mispriced fixed income securities using yield spread analytics across 500+ instruments, strengthening risk-aware trade selection and cross-sectional monitoring.
- Built a Python stress-testing engine for interest-rate shocks, quantifying DV01 and convexity under parallel shifts, twists, and butterflies to support scenario-based market risk analytics.
- Automated daily risk reporting by aggregating Greeks across the book, reducing manual runtime by 60% while improving reproducibility and controls for time-series driven risk dashboards.

General Life Insurance — Hong Kong
Actuarial Analyst — January 2023 – September 2024

- Designed an experience-study analytics framework over 200K+ policy records, applying statistical segmentation to evaluate lapse and mortality time series for IFRS 17 assumption governance.
- Automated model validation workflows in Python, replacing Excel-based reconciliations and reducing quarterly reporting cycle time by 40% through repeatable data cleaning and audit-friendly outputs.
- Built scenario projection models for product launches, quantifying capital requirements and embedded value sensitivity under stress assumptions, and translating results into stakeholder-ready documentation.

PROJECTS

Automated Earnings Call Sentiment and Return Prediction

- Built an automated ingestion pipeline using the SEC EDGAR API and spaCy parsing to process earnings-call transcripts, reducing end-to-end unstructured text processing from hours to under 10 minutes.
- Fine-tuned FinBERT on 5,000+ transcripts to classify tone with 84% test accuracy, then engineered sentence-level time-series signals for cross-sectional event studies.
- Combined NLP-derived signals with earnings surprise factors using a stacking ensemble, improving predictive R^2 by 22% while keeping the feature pipeline reproducible in Python.

Fixed Income Relative Value and Curve Trading Strategy

- Constructed a PCA-based yield-curve decomposition to extract level, slope, and curvature factors, enabling systematic relative-value monitoring across 2s5s10s and butterfly structures.
- Backtested carry-and-rolldown strategies on U.S. Treasury and swap markets (2015–2024), achieving Sharpe 0.72 gross with max drawdown of -6.3% over the full period.
- Implemented DV01-neutral position sizing with stop-loss triggers and z-score mean-reversion filters, improving risk-adjusted returns by 25% and reducing whipsaw trades by 35%.

COMPETITIONS

Morgan Stanley Quant Finance Challenge 2024 (Top 10 Finalist)

- Developed a dynamic delta-vega hedging strategy for a structured equity product under stochastic volatility, minimizing P&L variance across 10,000 Monte Carlo simulation paths.
- Designed a stress-testing framework evaluating portfolio resilience under 8 macro scenarios, including rate shocks, credit spread widening, and equity drawdowns for risk management review.