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: Econometrics, 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: Time Series, Non-Parametric Statistics, 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

- Architected a systematic fixed-income screening workflow in Python using yield-spread time series across 500+ instruments, improving data integrity for relative-value identification and downstream risk analysis.
- Built a scenario-based rate stress-testing engine to measure DV01 and convexity under parallel shifts, twists, and butterfly moves, supporting sensitivity analysis aligned with enterprise market risk reporting.
- Streamlined daily risk data production by programmatically aggregating Greeks and generating reports, reducing manual runtime by 60% and eliminating reconciliation errors via consistent validation logic.

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

- Conducted deep statistical analysis on 200K+ policy records to quantify lapse and mortality behavior, strengthening assumption governance and improving reliability of IFRS 17 reserving inputs.
- Automated model validation pipelines in Python by replacing manual Excel controls with repeatable checks, shortening the quarterly reporting cycle by 40% while improving traceability and documentation quality.
- Developed scenario projection models for new products to evaluate capital requirements and embedded value sensitivity under stress assumptions, supporting risk measurement and stakeholder decision-making.

PROJECTS

Automated Earnings Call Sentiment and Return Prediction

- Engineered a robust text-to-signal pipeline by ingesting transcripts via SEC EDGAR API and parsing with spaCy, reducing production processing time from hours to under 10 minutes per quarter.
- Applied statistical learning by fine-tuning FinBERT on 5,000+ transcripts to classify tone with 84% accuracy, then validated signal quality using abnormal-return attribution and cross-sectional testing.
- Built a stacking ensemble combining NLP features and earnings surprises, improving predictive R^2 by 22% while maintaining an auditable feature engineering workflow for research-to-production handoff.

Credit Risk Modeling for Corporate Bond Portfolios

- Calibrated reduced-form hazard rate and Merton structural models to CDS spreads for 300+ issuers, improving consistency of market data inputs used in credit risk measurement workflows.
- Implemented a correlated-default Monte Carlo engine to estimate CVA and portfolio VaR under historical and stressed correlation assumptions, supporting simulation-based risk analytics and scenario reporting.
- Performed sensitivity analysis on recovery and default correlation parameters, quantifying impacts on synthetic CDO tranche valuation and highlighting regime-dependent volatility distortions in portfolio loss distributions.

COMPETITIONS

Morgan Brandley Quant Finance Challenge 2024 (Top 10 Finalist)

- Developed a dynamic delta-vega hedging framework for a structured equity product under stochastic volatility, minimizing P&L variance across 10,000 Monte Carlo paths through systematic rebalancing.
- Designed a stress-testing suite spanning 8 macro scenarios, translating rate shocks, credit spread widening, and equity drawdowns into coherent risk narratives for portfolio resilience assessment.