Dev Kewlani

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Education & Credentials

North Carolina State University — **United States**
Master of Financial Mathematics — *December 2025*
GPA 4.0/4.0

Thapar Institute of Engineering and Technology — **India**
Bachelors of Engineering in Computer Engineering — *June 2022*

Chartered Financial Analyst (CFA) - Passed Level 1 — *February 2024*
JPMorgan Chase & Co. Quantitative Research Program on Forage — *February 2025*
Akuna Options 101 and 201 — *November 2024*

Coursework

Stochastic Calculus, Probability Theory and Hypothesis Testing, Fixed Income Instruments, Monte Carlo Methods, Statistical Learning, Quantitative Strategies, Applied Time Series Analysis, Bayesian Computations, Option Pricing, Portfolio Optimization, Equity Valuation

Skills & Certifications

Technical Skills: Python, SQL, Excel, Unix, Bloomberg, Microsoft Office Suite, Blackrock Aladdin
Libraries: numpy, pandas, scipy, tensor flow, Pytorch, HyperOpt, scikit-learn, cvxpy, statsmodels

Work Experience

JPMorgan Chase & Co. — **United States**
Quantitative Analytics Associate Intern — *June 2025 - August 2025 (Incoming)*

NX Block Trades — **India**
Quantitative Trader — *November 2023 - June 2024*

- **Designed** a comprehensive **Algorithmic Trading framework** for Indian indexes, incorporating various predictive features from futures and options data and using **time series and machine learning ensemble models** to trade 0-2 DTE options
- **Developed** a generalized backtesting framework for both single-legged and multi-legged strategies, incorporating dynamic greek hedging
- This strategy achieved a **Sharpe Ratio of 2.4**, with a cumulative profit of 45% and a maximum drawdown of -8% in **backtesting**
- **Began** developing a similar system for **ES futures**, processing raw multi-tick data and refining data-cleaning methods
- Implemented **signal processing and order routing** using interactive and market data web sockets, streamlining execution in markets

Blackrock — **India**
Quantitative Analyst — *September 2022 - November 2023*

- **Applied** quantitative analytics techniques to estimate and stress-test potential impacts on client portfolios from various factors, including VIX fluctuations, geopolitical events, and changes in the debt ceiling, resulting in enhanced risk management strategies
- **Developed** and refined an analytics script to pinpoint missing stress and tail scenarios in client portfolios that helped achieve a **40% reduction in production processing time**, optimizing team resources effectively
- **Implemented** comprehensive factor-wise risk reporting for clients using Aladdin Wealth with a combined AUM of ~$900B
- **Created** a suite of tools to measure portfolio sensitivity to benchmarks, including tracking error analysis (both ex-post and ex-ante).

Futures First — **India**
Intern - Commodities (Wheat) Trader — *January 2022 - July 2022*

- **Analyzed** market dynamics of wheat, including supply-demand curves, and explored contango and backwardation effects
- **Conducted** fundamental and technical research, applying time series analysis to capture volatility dynamics of wheat using **GARCH**
- **Navigated** heightened market volatility during the Black Sea Corridor crisis, adapting risk management approaches accordingly

Projects

AlphaPortfolio - Direct Portfolio Optimization Using Deep Reinforcement Learning

- **Led a team of 4** as a **Financial Math ambassador** to develop this portfolio optimization deep reinforcement learning framework that integrates two-step **transformer-based** modules to capture both temporal dynamics and cross-asset interdependencies
- **Achieved** 13% returns on OOS data with a **Sharpe** of ~1.7 through a sliding-window approach with delayed reward mechanisms

Pure Momentum: Behavioral Arbitrage in Cryptocurrency Markets

- **Developed** a **momentum** strategy which **exploits price patterns** that emerge from shifts in the **24-hour return window** in crypto markets
- **Implemented** a system using **QuantConnect** achieving 250%+ annualized returns **but confirming** minimal viability **due to bid-ask spreads**

Asset Allocation Backtesting Framework

- **Engineered** a system to evaluate strategies and track position Greeks reducing backtest runtimes to **4 minutes per year of tick data**

Loss Given Default Model for Mortgage Loans

- **Developed** a risk model for a residential mortgage portfolio, using **Fannie Mae Single Family Home** Loan Dataset
- **Benchmarked Linear Models with XGBoost** and achieved accuracy levels in line **(~65%)** with the current academic research in the field
- **Identified** LTV, Occupancy Status, CPI, Home Price Index, Mortgage Insurance Type and Last Paid Installment as **key features**