VIKALP THUKRAL

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EDUCATION

UCLA Anderson School of Management — Los Angeles, CA
Master of Financial Engineering — Dec 2025
• Honors: 2025 IAQF Competition Winner (Top 4/30 teams) (Read the paper here) – Modeled volatility dynamics using GARCH-DCC & LPPLS bubble detection. GRE Quant: 167/170, GPA: 3.7
• Relevant Coursework: Stochastic Calculus, Derivatives & Option Pricing, Advanced Computational Methods, Econometrics, Empirical Methods

Punjab Engineering College — Chandigarh, India
B.Tech, Electronics and Communication (GPA: 3.75) — July 2021
• Relevant Coursework: Probability and Statistics, Vector Algebra, Digital Signal Processing, Fourier Transform, Eigen Values

SKILLS & TOOLS

Programming & OOPs: Python (NumPy, SciPy, Pandas), C++, SQL, Object-Oriented Programming (OOPs)
Quantitative Finance: Option Pricing Theory, Stochastic Processes, Numerical Methods, Financial Modeling
Big Data & Analytics: Hadoop (PySpark, HIVE), Advanced Excel (Macros & VBA), Tableau, Root Cause Analysis
Certifications: Machine Learning in Finance, CFA Level II Candidate

PROFESSIONAL EXPERIENCE

UCLA Anderson School of Management — Los Angeles, CA
Quantitative Researcher — Feb 2026 – Present
• Researched and implemented Neural Networks to dynamically optimize weights for Monte Carlo simulations, accelerating the pricing of complex and path-dependent derivative options.
• Designed and backtested quantitative alpha signals utilizing WorldQuant BRAIN, applying advanced probability theory and empirical methods to extract predictive insights from market data.

Link Capital LLC — Los Angeles, CA
Quantitative Analyst — May 2025 – Nov 2025
• Built robust ETL pipelines using Python and SQL to extract, transform, and analyze large-scale financial datasets for complex structured finance portfolios.
• Engineered detailed financial models to simulate cash flow waterfalls for SPV securitized loans, utilizing dynamic Loss Curves, while consistently documenting projects and creating strategic decks for leadership.

American Express — Gurugram, India
Associate – Data & Product Management — Jan 2023 – June 2024
• Acted as Product Owner for the Enterprise Data Warehouse, spearheading data ingestion, arbitration, and continuous production updates for over 1 Billion rows of customer demographic and financial data.
• Transformed and optimized massive legacy codebases using PySpark and HIVE, dramatically reducing Hadoop server execution runtimes from 24 hours to 3-4 hours.

Associate – Data Analytics — Aug 2021 – Dec 2022
• Collaborated within Agile Scrum teams to perform rigorous Root Cause Analysis (RCA), coordinating rapid production resolutions for critical Data Quality issues and automating backend data workflows.
• Designed tracking interfaces using Advanced Excel Dashboards (Macros & VBA) and Tableau to visualize enterprise data health, meticulously documenting analysis to build informative presentation decks for senior leadership.

QUANTITATIVE DEVELOPMENT PROJECTS | github.com/Weculp

Advanced Computational Option Pricing Theory
Concepts: Monte Carlo Simulation, Finite Difference Methods, Stochastic Calculus ***Tech:*** Python, C++
• Developed in-house quantitative models utilizing explicit, implicit, and Crank-Nicolson PDE solvers alongside variance-reduced Monte Carlo simulations to price exotic derivatives (Lookback, Barrier).

Multi-Factor Stochastic Modeling & Fixed Income Valuation
Concepts: Jump-Diffusion Models, Vasicek/CIR Models, Numerical Methods ***Tech:*** Python, OOPs
• Engineered an object-oriented quantitative framework to value mortgage-backed securities (MBS) and price down-and-out puts under Heston-type stochastic volatility dynamics.

INTERESTS

Financial Risk Modeling, Algorithm Optimization, Competitive Gaming (Connect 4 ELO: 1950+), Badminton