Vrushabh Sharma

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EDUCATION

UCLA ANDERSON SCHOOL OF MANAGEMENT — Los Angeles, CA
Master of Financial Engineering — Merit Scholarship — Expected Dec 2027

- *Relevant Courses:* Stochastic Calculus, Econometrics (R), Optimization, Investments, Financial Accounting

K J SOMAIYA COLLEGE OF ENGINEERING, MUMBAI UNIVERSITY — Mumbai, India
B.E., Electronics and Telecommunication — Research Paper Published in IJESC (Sep 2017) — Aug 2018

SKILLS & CERTIFICATIONS

- *Computer Science:* Python (NumPy, Pandas, SciPy, scikit-learn, cvxpy, PyTorch, Matplotlib), R, C++, SQL, MATLAB, Excel VBA, PowerPoint, Word, Power BI, Tableau, AI tools
- *Math & Statistics:* statistical models, mathematical techniques, probability theory, statistics, stochastic calculus, partial differential equations, econometrics, time-series regression, optimization, numerical analysis, Monte Carlo, machine learning
- *Trading & Finance:* systematic strategies, backtesting, transaction costs, risk management, portfolio construction, options, volatility, market making, bonds, swaps, rates curves, model validation, DCF/IRR/LBO, M&A
- *Certifications (Coursera):* Financial Engineering and Risk Management (Columbia); Supervised Machine Learning (Stanford); Probability & Statistics, Linear Algebra (DeepLearning.AI); Differential Equations and PDEs (HKUST); C++ Data Structures (UIUC); Python (Google)

EXPERIENCE

RAIGAD PEN GROWTH CENTRE LTD. — Mumbai, India
Vice President, Investment Strategy and Finance — Dec 2023 – Nov 2025

- Built and validated a 10,000+ path Python Monte Carlo engine on a $600M asset base, giving management and lenders tail-risk estimates
- Exposed credit distress missed by independent shocks: Cholesky-correlated shocks raised estimated default probability from 4.2% to 16.8%
- Resolved projection divergence with MATLAB stability bounds, then stress-tested rate and regulatory scenarios to flag cash-flow shortfalls
- Priced bond financing tranches off rates curves and interest-rate swaps, setting positioning for rate shifts on the $2B program
- Structured multi-tranche asset allocation scenarios up to $1.2B under debt-service limits, making repayment capacity explicit
- Pitched investors, building a $200M pipeline (Brookfield, SBI, NaBFID) via capital markets advisory; scenarios shifted new raises to equity
- Wrote SQL reconciliation software for large financial data sets (risk reporting days to real time) and VBA reports, cutting report time 20%

THE GUARDIANS REA — Mumbai, India
Senior Manager, Business Planning — Apr 2023 – Nov 2023

- Fit regression with outlier removal, moving averages and trend decomposition on 10,000+ market records, producing one revenue forecast
- Turned forecast patterns and market trends into securities insights for financial institutions Motilal Oswal, Kotak Mahindra Bank and HDFC

BERKSHIRE HATHAWAY INDIA — Mumbai, India
Regional Manager, Mumbai and Pune — Mar 2022 – Mar 2023

- Evaluated 2 potential deals in a ~$120M (INR 1,000 Cr) opportunity set with DCF, IRR and LBO models, showing clients what drove value
- Supported deal team due diligence on both transactions, validating inputs and benchmarking valuations presented to investor clients
- Stress-tested 5-year EBITDA, exit timing and financing, comparing returns by holding period to show investors how returns moved
- Assessed startup investments involving CPP Investments capital, comparing risk-adjusted returns for clients; negotiated supplier terms

SQUARE YARDS — Mumbai, India
Manager, Investments Strategy — Jul 2021 – Mar 2022

- Built an Excel cash-flow and revenue model for ~$48M (INR 400 Cr) of real estate investments L&T planned to fund, showing funding needs
- Presented forecasts to management, making expected inflows and funding needs explicit and giving a basis to test assumptions

BYJU'S — Mumbai, India
Finance Manager — May 2019 – Jun 2021

- Managed assigned fund distribution and investment flows in the funding process for $216.3M of startup acquisition and integration activity
- Cut product returns by forecasting demand and planning inventory and capacity in a $1.9M program, saving $1.2M a year

PROJECTS

G10 FX Systematic Trading: Statistical Models and Transaction Costs *(global FX; Python, cvxpy)* — Sep 2026 – Present

- Build a G10 FX mean-variance allocator (Ledoit-Wolf, turnover penalties) on 10 years of tick data: out-of-sample gross Sharpe 1.72
- Diagnose regime-shift failure as transaction costs and spread widening erode 65% of carry alpha; vol-scaled throttling cuts drawdown 38%

Options Pricing and Delta Hedging: Equity Derivatives and Volatility *(Python, Pandas, SciPy)* — Sep 2026 – Present

- Price S&P 500 options with Black-Scholes and fit an implied-volatility surface to evaluate a delta-hedged straddle strategy

Algorithmic Market Making: Computerized Trading Simulation *(Python, NumPy, Matplotlib)*

- Developed an Avellaneda-Stoikov market maker with Poisson order arrivals, cutting inventory variance 44% vs. symmetric quotes

ADDITIONAL INFORMATION

- *Strengths:* creativity and innovation in trading ideas; collaborative, collegial quantitative research; critical evaluation of strategy performance
- *Leadership & Achievements:* Event Team Head, KJS Hostel: festivals, budgets (Jul 2016 – Aug 2018); Stok Kangri summit (6,153 m)
- *Volunteer & Interests:* fundraising and awareness for ~800 to 1,000 rescued cows (2010 – 2025); golf, basketball, farming