Amol Sharma

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GitHub, LinkedIn, HackerRank

Aspiring analyst with expertise in quantitative methods and a keen interest in financial markets. Passionate about Derivatives and Risk Management while open to diverse opportunities in financial analysis and quantitative research.

Academic Record

eMasters Quantitative Finance & Risk Management	July, 2024	Indian Institute of Technology, Kanpur	9.5
MTech Structural Dynamics & Earthquake Engineering	2016	Visvesvaraya National Institute of Technology, Nagpur	7.89
BE Civil Engineering	2014	Jabalpur Engineering College	7.5
Class XII	2009	Marble Rock School (CBSE)	72.4%
Class X	2007	Christ Church Boys Senior Secondary School (CBSE)	82.2%

Certifications

- NISM Series XII – Securities Market Foundation
- NISM Series VIII – Equity Derivatives
- NISM Series IV – Interest Rate Derivatives
- NISM Series I – Currency Derivatives
- NISM Series VII – Securities Operations & Risk Management
- NSE NCFM Derivatives (Advanced) Module
- Probability & Statistics for Business & Data Science (Udemy)
- The complete SQL Bootcamp (Udemy)
- The complete Python Bootcamp (Udemy)
- Python for Machine Learning & Data Science Masterclass (Udemy)
- Quantitative Financial Modelling in Microsoft Excel (Udemy)
- Alteryx Bootcamp (Udemy)

Projects

1. Option Valuation: Black Scholes v/s Binomial v/s Monte Carlo
- Critically analysed the three most widely used pricing methods, including their mathematical foundation, assumptions, limitations, validation, testing, comparative analysis, calculation of implied volatility, option greeks and volatility smile.
- Executed real-world application of pricing methods with Python, using near-month TATASTEEL call and put options data.

2. Dynamic Volatility Forecasting for Risk Management & Derivatives Valuation: EWMA & GARCH (1,1) approaches.
- Forecasted NIFTY 50 volatility using EWMA & GARCH with appropriate econometric tests.
- Using forecasted volatility, valued near month call and put options on NIFTY 50 & calculated implied volatility.
- Forecasted VaR using model building approach for a single stock portfolio to desired horizon & confidence interval.

3. Prepared a Secondary Research Report on Zero Day Options (0DTE) analysing newspaper coverage, associated volatility fluctuations, VIX1D Index, retail traders' fascination and regulatory concerns.

4. Analysed various classification algorithms to assess bank customer credit quality using an imbalanced dataset. Evaluated performance for three given thresholds using ROC curves and confusion matrices.

Work Experience

F2S Foundation to Structures, Noida | Structural Engineer (Contractual) | Aug22 – Present (25 Months)
- Performed seismic analysis and wind load calculations for structures to ensure their safety and compliance with relevant engineering standards.

Kalmegh Infratech Limited, Raipur | Consultant (Contractual) | Aug22 – Present (25 Months)
Consultant – Civil | Aug18 – July 22 (48 Months)
- Involved in supply, erection and commissioning of LT distribution lines.
- Led the expansion of firm's business operations involving maintenance of transformers.
- Other duties included tender preparation and purchase related dealings with government and private firms.

Extra-Curricular Achievements

- Member of the winning cricket team in inter-branch competitions at undergraduate level.
- Regular participant in college badminton competitions.

Other Interest and Hobbies

▪ Reading fiction ▪ Geopolitics