PRAKHYATH SHIVAPPA

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EDUCATION

Masters of Science in Financial Engineering — Sep 2022 – May 2024
Stevens Institute of Technology, Hoboken, NJ — 3.9 GPA
Relevant Courses: Portfolio Optimization, Financial Derivatives (Futures, Forward, Swaps, and Option Pricing), Credit Risk Modelling, Yield Curve, Duration, Convexity, Quantitative Risk Management (VaR, Expected Shortfall, SR 11-7, SR 15-18, Basel III, CCAR, Stress Testing), Mathematical Finance (Monte Carlo Simulation, Black-Scholes, Binomial Option Pricing, and Stochastic Processes

Bachelors of Engineering in Mechanical Engineering — Jun 2015 – Jun 2019
PES University, Bengaluru, India
Relevant Courses: Management and Engineering Economics, Financial Management, Operations Research

SKILLS

Technical Tools : C++, Python, R, MATLAB, SQL, HTML/CSS, JavaScript, VBA.
Certification : Bloomberg Terminal, Algorithmic Trading - EPAT, Graduate Peer Mentor, Fire Fighting , Yoga.

PROFESSIONAL EXPERIENCE

Teaching Assistant | **Stevens Institute of Technology, Hoboken, NJ** — Sep 2022 – May 2023
- Demonstrated expertise in financial data analysis, data extraction, and market research using Bloomberg tools by mentoring 20+ Bloomberg and Thomson Reuters students.
- Enhanced leadership and mentorship by guiding students, resulting in a 30% improvement in project completion rates.

Quantitative Research Analyst | **Ebullient Securities Pvt, Gurugram, India** — Oct 2021 – Jun 2022
- Collaborated with algorithmic strategy teams and vendor data handlers to develop an in-house trading system, boosting trading efficiency by 30% and improving execution accuracy by 25%.
- Managed a diversified portfolio worth USD 1.5 million, comprising stocks, derivatives, and ETFs, and implemented risk management strategies that minimized losses and maximized returns.
- Supervised and mentored 4 interns, enhancing their skills in extracting and analyzing financial market data from global reports using SQL, resulting in a 20% improvement in data accuracy.

Research Analyst Trainee | **Ebullient Securities Pvt, Gurugram, India** — Sep 2020 – Aug 2021
- Assisted senior analysts with research of trading algorithms, contributing to the development of advanced strategies.
- Backtested long-short multi-factor strategies using Omega Research Software and Python with historical ETF and currency data, resulting in a 20% increase in alpha, optimized portfolio performance, and managed extensive data.
- Analyzed how different parameters affect portfolio performance and wrote detailed research reports for management, providing actionable insights and recommendations.

ACADEMIC PROJECTS

QWIM (Capstone Project with Bank of America) — Feb 2024 – May 2024
- Engineered and assessed three advanced portfolio construction models using network analysis, negative skewness, and machine learning techniques, resulting in a 5% improvement in investment decision-making processes.
- Optimized portfolio performance, significantly boosting key metrics in portfolio management such as risk-adjusted return, diversification, and active asset allocation.
- Achieved annualized returns of 10.78% for machine learning, 9.34% for negative skewness, and 6.07% for network analysis, markedly exceeding the minimum variance benchmark of 4.67%.

Realized Volatility Prediction — Nov 2023 – Dec 2023
- Crafted predictive models for short-term stock volatility, delivering insights into expected price fluctuations over 10-minute periods, and achieved an RMSPE of 0.341 across diverse sectors during evaluation.
- Utilized Naive Bayes classification, integrating features like price trends, trading volume, and market indicators, to provide crucial insights for pricing options and other financial products.

Next Day Trend Prediction — Mar 2023 – April 2023
- Developed and fine-tuned classification algorithms including Decision Tree, Random Forest, AdaBoost, Gradient Boosting, and SVM, achieving the highest test accuracy of 68% with the SVM model.
- Analyzed feature importance, identifying OBV (0.306), RSI (0.254), WMA (0.242), and ATR (0.197) with Gradient Boosting Classifier, achieving an MCC score of 0.0074 and test error of 0.5087 while evaluating model performance.
- Compared model-generated returns with actual buy-and-hold returns, demonstrating model effectiveness while noting a 50.87% test error rate and highlighting the associated drawdown risks.