Madhuram Bohra

IIT Madras
B.S. Degree

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🔗 Linkedin | 📊 Aspiring Quant | 💼 Market Risk Analysis| 👨‍💻Github

Education

- ***MSC in Financial Engineering*, *WorldQuant University*, *CGPA - 9.4*** *[Jan 2025 - jan 2027]*
- **B.S in Data Science & Applications**, ***Indian Institute of Technology*, *Madras***, *CGPA - 8.51 [Jan. 2021 – Apr 2025]*
- ***BSC in Mathematics*, *Mithibai College*, *CGPA - 8.10*** **[***Sep. 2020 – May 2023]*

Technical Skills

Programming and Tools: Python (Pandas, NumPy, SciPy, Matplotlib, Seaborn, Statsmodels, PyTorch, TensorFlow), R, SQL (Postgres), Excel (Advanced), Git, Jupyter Notebook, Google Cloud Platform, PowerBI.
Quantitative and Statistical Modelling : Time-Series Forecasting (ARIMA, GARCH), Portfolio Optimization (Mean-Variance), Risk Management (VaR, Monte Carlo Simulation), Option Pricing (Black-Scholes, Binomial Trees), Credit Risk Models (PD, LGD)
Machine Learning: Supervised Learning (Linear Regression, Logistic Regression, Decision Trees, Random Forests, SVM), Unsupervised Learning (K-Means, PCA), Reinforcement Learning (Q-Learning, PPO)
Data Analysis and Financial Engineering: Time-Series Analysis, Forecasting, Monte Carlo Simulations, Risk and Return Analysis, Credit Risk, Portfolio Management, Econometrics
Big Data & Cloud: Kafka, Hadoop, Spark

Experience

Data Science Intern, *Greek Technologies Pvt Ltd* *[*May 2022 – July 2022]
- Worked on real-time intraday data, updating stock market strategy algorithms for Python compatibility.
- Automated stock market strategies using OOP principles for modularity and scalability.
- Optimized algorithm performance using binary data to reduce latency in real-time market applications.

Projects

Financial Agent Simulator – *Crew AI*, *Multi-Agent System* |
- Built modular AI agents simulating user's financial behavior using economic logic
- Integrated agents: Spending Advisor, Goal Tracker, Emotional Bias, Mentor
- Used simulated cash flow events, AI-guided financial suggestions, and markdown outputs

Portfolio Optimization Model for Index Outperformance |
- Designed optimal portfolio weights mimicking benchmark risk while maximizing expected return
- Integrated liquidity constraints; achieved enhanced Sharpe ratio and risk control metrics

Stock Price Prediction using Time Series |
- Applied ARIMA, SARIMA, Holt-Winters, LSTM & Transformer models
- Achieved best performance using LSTM on deseasonalized and detrended data insights.

Online Certification and Programs

- ACM Summer School – Responsible and Safe AI | *June 2024*
- AI Entrepreneurship Workshop, IITM | *July 2024 - Aug 2024*
- Risk - Goldman Sachs and Market Quantitative Analysis – Citi **(Forage)**