Siddhant Shah

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SUMMARY

Graduate Quantitative Researcher & Analyst with expertise in **financial modeling** and **risk management**. Proficient in **Python, R, SQL**, and **KDB+/Q**, specializing in **portfolio optimization**, and **big data** management technology. Strong background in **asset pricing models** and **options theory**, with experience using **Bloomberg Terminal** and strategy generation from data. Preparing for **CFA Level 1**.

EDUCATION

Boston University | *Master of Science (MS)* | Boston, MA, USA | *GPA 3.94* Dec 2025

Analytics and Data Visualization; Advanced Machine Learning; Big Data Analytics; Web Mining & Graph Analytics.

Chennai Mathematical Institute | *Bachelor of Science (Honors) Mathematics & Computer Science* | Chennai, TN, India Jul 2024

Linear Algebra, Fourier Analysis; Data Structures and Algorithms, Probability Theory & Statistics; Stochastic Processes; Statistical Inference; Financial Modelling and Options Theory; Economics.

PUBLICATIONS & ACADEMIC PROJECTS

Shah, S., & Pinsky, E. | *The Silver Lining of Daily Bitcoin Trading* Apr 2025

- Developed a systematic trading strategy leveraging overnight silver returns to predict Bitcoin price movements, demonstrating lower drawdowns in a 10-year backtest. Published in *Technical Analysis of Stocks & Commodities, The Traders' Magazine (June 2025)*

Options Trading Strategy Simulation | Python Mar 2025

- Designed and implemented a Python-based options pricing model that incorporated volatility skew analysis during market stress scenarios through Monte Carlo simulations.
- Backtested trading strategies across multiple market conditions using historical data, identifying optimal entry/exit points that would have generated 12% higher returns while maintaining the same risk profile.

Shah, S., & Pinsky, E. | *Estimating the Accuracy of a Bagged Ensemble* | DOI:10.5121/mlaij.2025.12106 Mar 2025

- Developed a probabilistic framework to estimate model accuracy, reducing computational complexity.
- Applied statistical modeling to optimize ensemble learning, with potential applications in quantitative finance & algorithmic trading.

Market Microstructure Analysis | *R* Feb 2025

- Developed a statistical arbitrage model using R that analyzed high-frequency trading data to identify pricing inefficiencies across correlated assets, recognizing patterns that could be leveraged for short-term trading opportunities.
- Created a real-time dashboard visualizing market liquidity and order book dynamics, enabling quick identification of market-making opportunities with potential edge in bid-ask spreads during volatile trading sessions

Quantitative Equity Research & Financial Analysis Framework Jan 2025

- Conducted quantitative and qualitative equity research on a diverse set of companies, leveraging Bloomberg Terminal and FactSet to analyze financial statements, market trends, and economic conditions.
- Built a financial modeling framework in Python and Excel to evaluate company fundamentals, including revenue growth, profitability, and debt structures, enabling data-driven investment decisions.

EXPERIENCE

Boston University, Department of Computer Science | *Research Assistant* | Boston, MA, USA Oct 2024 - Present

- Designing rotation-based trading strategies for commodity & capital markets over multiple annual and quarterly investment horizons to outperform S&P GSCI for retail client portfolios.
- Co-authored 4 papers, with extensive documentation to communicate findings to technical audiences, providing commentary on current progress in field and potential avenues for new research.

Raising A Mathematician Foundation | *Program Operations Intern* | Mumbai, MH, India July 2024 – Aug 2024

- Founded Maths Circle Initiative by RAM Foundation in India, establishing 3 national locations.
- Led a team of five to drive data-driven business expansion, leveraging quantitative analysis of applicant data to identify high-potential markets for educational programs.
- Spearheaded implementation of Agile project management and a CRM system, optimizing operations with Jira and Confluence to improve teamwork and strategic decision-making.

Fino Payments Bank | *Data Associate Intern* | Navi Mumbai, MH, India May 2023 - Jul 2023

- Built a database of 6,000+ government-sponsored financial schemes, leveraging PySpark and pattern recognition to transaction data, developing a revenue growth strategy could 2x revenue.
- Acted as a conduit between data science, product and marketing teams to produce data driven insights to assist business operations.

CERTIFICATIONS

Bloomberg | *Finance Fundamentals Certification* | Certificate ID: hMwkGGrPk7QVfKpcgt9E4UQJ Feb 2025

DeepLearning.AI with OpenAI and LangChain | *Building LLM Applications & RAG Systems* Jan 2025

ADDITIONAL SKILLS

Financial Markets, Macroeconomic Indicators, Market Microstructure, Fixed Income Analytics, Derivatives Pricing, Options Strategies, Risk Management, Regression Modeling, Volatility Modeling, Expected Shortfall (CVaR), and stress testing; Cross-Asset Analysis; Python (NumPy, Pandas, PySpark, SciPy, PyTorch); Amazon Web Services (AWS), Google Cloud Platform (GCP); Microsoft Office (Advanced Microsoft Excel & VBA, Microsoft Word, Microsoft PowerPoint); Time Management, Collaborative Teamwork.