Aditya Shah

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Education

NYU Tandon School of Engineering — New York, NY
M.S. in Financial Engineering, GPA: 4.00/4.00 — Aug 2025 – May 2027
Coursework: Financial Risk Management, Derivative Securities, Stochastic Calculus, Probability & Statistics, Fixed Income, Quantitative Portfolio Management, Time-Series Analysis, ML in Finance

Nirma University — Ahmedabad, India
B.Tech. in Computer Science and Engineering, CGPA: 8.55/10 — Aug 2021 – May 2025

Achievements

IAQF Student Competition 2026 – Winner (Team Captain) — May 2026
International Association for Quantitative Finance — *New York, NY*

- Led Team Sharpe Minds to win the 15th Annual IAQF Competition among 31 teams from 15 academic programs
- Authored "Pegged… Until It's Not: Stablecoin Risk and Market Dislocation," analyzing cross-currency stablecoin basis during the March 2023 SVB crisis and mapping findings to the GENIUS Act 2025

Experience

Data Scientist Intern — Jan 2025 – May 2025
Prowess Consulting LLC — *Ahmedabad, India*

- Reduced 100K features to 200 principal components via Truncated PCA on 33K-ZIP-code Census data, cutting Snowflake query time by 60% and enabling K-Means clustering of 5 socio-economic profiles
- Shipped QueryBot, a natural-language-to-SQL assistant (LangChain + GPT-4), cutting analyst query turnaround from 2 hours to under 5 minutes across 15+ stakeholders
- Automated job-market analytics pipeline in Python scraping 1,000+ postings weekly from 50+ financial institutions

Machine Learning Intern — Jun 2024 – Jul 2024
DRC Systems — *Gandhinagar, India*

- Deployed BERT-based resume parsing pipeline (NER, QA, zero-shot classification) processing 10,000+ resumes at 92% entity-extraction F1, cutting recruiter screening time by 70%
- Designed Isolation Forest anomaly detection system for payment transactions, flagging fraudulent patterns

Data Analyst Intern — Jul 2023 – Aug 2023
4c Consulting — *Ahmedabad, India*

- Built end-to-end preprocessing pipelines (imputation, encoding, outlier removal) on 50,000+ banking records, improving downstream model AUC from 0.72 to 0.84 (+17%)

Teaching & Research

Teaching Assistant – Deep Learning Models in Financial Learning — Mar 2026 – Present
NYU Tandon School of Engineering — *New York, NY*

- Fine-tuned a base LLM via LoRA-SFT and GRPO RL on Black-Scholes option-pricing tool calls, lifting parse rate from 0% to 100% and average reward from -0.117 to 1.033 with zero catastrophic forgetting
- Curated 8,000-sample SFT corpus and 1,200-prompt GRPO set powering training; mentored 20+ graduate students

Research Assistant — Aug 2024 – Dec 2024
Binghamton University (Remote) — *New York, NY*

- Accepted peer-reviewed paper (ICICT 2025) benchmarking 7 ML/DL models (LSTM, CNN, ANN, SVM, Random Forest) on 20 years of Reliance stock data; one-layer LSTM achieved 87% next-day prediction accuracy, outperforming all baselines
- Developed Deep Q-Learning agent for multi-stock execution, outperforming buy-and-hold by 12% over 252-day backtest

Projects

Finance RAG Assistant: Built a RAG system (LangChain, FAISS, Streamlit, OpenAI) over 10+ SEC filings (10-K/10-Q), indexing 1,000+ chunks with top-3 retrieval, achieving 89% answer relevance and reducing API costs by 50%

Market Anomaly Detection: Developed hybrid Z-score + Isolation Forest model detecting 40.9% of extreme return events ($>2\sigma$), generating 3.31% forward alpha across 5-year S&P 500 backtest

Technical Skills

Languages & Databases: Python, SQL, R, C/C++, Java, PostgreSQL, SQL Server, Snowflake
ML/AI & Frameworks: PyTorch, TensorFlow, scikit-learn, Hugging Face, LangChain, XGBoost, Random Forest, BERT, LSTM, CNNs, GANs, NLP, LLMs, RAG, RLHF (SFT, PPO, GRPO), Transformers, Agentic AI, Regression, A/B Testing
Tools: Git, CI/CD, AWS, FAISS, Pandas, NumPy, Streamlit, Power BI, Tableau, Excel, Bloomberg Terminal
Quant & Finance: Alpha Generation, Portfolio Optimization, Risk Modeling (VaR, CVaR), Factor Models, Options Pricing