SHREEJIT VERMA

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EDUCATION

Stevens Institute of Technology, Hoboken, NJ — Aug 2024 – May 2026
Master of Science in Financial Engineering | **GPA**: 3.968/4.0
Coursework: Market Microstructure, Quantitative Hedge Fund Strategies, Algorithmic Trading Strategies, Multivariate Statistics

Georgia Institute of Technology (Online), Atlanta, USA — Aug 2024 – Expected Dec 2025
Master of Science in Computer Science with Specialization in Computing Systems
Coursework: High-Performance Computing, Distributed Computing, Database Management Systems, Bayesian Statistics

WorldQuant University, New Orleans, USA — Dec 2021 – May 2024
Master of Science in Financial Engineering | **GPA**: 86%
Coursework: Deep Learning for Finance, Financial Econometrics, Fixed Income, Equity, Portfolio Management, Risk Management

Carnegie Mellon University, Tepper School of Business, New York, USA — Aug 2021 – Oct 2021
Master of Science in Computational Finance – (Program withdrawn due to father's illness)
Coursework: Investments, Statistical Machine Learning, Simulation Methods, Financial Computing, Algorithmic Optimization

Vellore Institute of Technology, Vellore, India
Bachelor of Technology in Computer Science and Engineering | **GPA**: 8.78/10.0 — Jul 2014 – Sept 2018
Coursework: Data Structures and Algorithms, Computer Networks, Reinforcement Learning, Natural Language Processing (NLP)

PROFESSIONAL EXPERIENCE

LogiNext Solutions Inc., Mumbai, India
Senior Software Engineer Analytics, Lead Developer in Analytics Department — Mar 2023 – Jun 2025

- Architected and developed Map Construction Algorithms and Map Routing Algorithms and solved Rich Vehicle Routing Problems (3 Nested NP-Hard Problems) using Constraint Programming. Database used: PostGIS, QGIS, MongoDB, and S3
- Led a team of 12 as Head of the Data Analytics department, developing a high-performance geospatial mapping application
- Engineered a robust ML Pipeline for proactive error detection and resolution, ingesting live logs from Elasticsearch, Logstash, and Kibana (ELK stack) to classify production errors, suggest remedies, and streamline task assignment
- Built a Large Language Model (LLM) for internal development and query resolution, improving bug resolution by **80%**

Versor Investments, Mumbai, India
Quantitative Developer, Merger Arbitrage and Stock Selection Portfolio — Feb 2022 – Oct 2022

- Contributed to the management of a combined AUM of **$8.5 Billion**, the Merger Arbitrage and the Stock Selection Portfolios
- Developed and backtested systematic strategies for merger arbitrage, yielding a **15%** improvement in alpha capture
- Deployed scalable ML pipelines for Order & Execution Management Systems, increasing trade execution efficiency by **29%**
- Built portfolio strategy, capitalizing on arbitrage opportunities from the impact of ESG scores on pre- & post-merger statistics

Bank of America, Chennai, India
Senior Software Engineer in Fixed Income Commodities and Currencies (FICC) — Jan 2020 – Jul 2021

- Engineered Python-based trading services to enhance the storage, processing, matching, and execution of trades on QUARTZ
- Integrated C++ pipelines to store trades in the object-oriented database SANDRA, reducing trade processing latency by **50%**
- Led the migration of **1 million** plus lines of code to Python 3.8, enhancing system scalability and execution efficiency by **40%**

Senior Tech Associate in Data Analysis and Insight Technology — Jun 2018 – Dec 2019

- Architected and developed an ML/AI platform to deploy predictive models, increasing decision-making accuracy by **67%**
- Designed machine learning models for data validation rules prediction, reducing close to **36 Full-Time Equivalents (FTEs)**

SKILLS

Mathematics/Statistics: Probability, Stochastic Calculus, Differential Equations, PDE, Linear Algebra, Numerical Methods, Markov
Quantitative Finance: Statistical Analysis, Derivative Pricing, Time Series Analysis, Factor Modeling, Predictive Modeling, Greeks
Machine Learning: Linear Regression, Clustering, Random Forest, XGBoost, RNN, LSTM, Deep Learning, Neural Networks, NLP
Programming: Python, C++, C, Java, R, MATLAB, JavaScript, Verilog, VHDL, Node.js, ReactJS, NumPy, Pandas, SciPy, Keras, PyTorch, TensorFlow, Scikit-learn, OpenMP, MPI, CUDA, QuantLib, Statsmodels, QtPy, CVXPY, Git, Bash Scripting, Linux
Data Engineering: Airflow, Dask, Spark, PySpark, FastAPI, REST APIs, Kafka, Flink, NoSQL, GraphQL, SQL, BQL, KDB+, Q, VBA, ETL, Big Data, Hadoop, HDFS, PostgreSQL, MongoDB, ZeroMQ, Cassandra, Django, Redis, JIRA, Confluence, Agile, Scrum
Computer Science: Networking (TCP/IP, UDP, Multicast), Low-Latency Protocols, High-Frequency Trading (HFT), FPGA, Distributed Systems, Parallel Computing, Multithreading, Blockchain, Data Structures and Algorithms, Advance Operating Systems
Cloud Computing and DevOps: Jenkins, Ansible, Docker, Kubernetes, Helm, CI/CD, Serverless Architecture, AWS, GCP, Azure

RESEARCH

AI-Integrated FPGA for Market Making in Volatile Environments (Master's Thesis) | GitHub — Oct 2024 – Dec 2025

- Engineering a sub-10µs trading platform with a custom-built limit order book, FPGA market data handlers, kernel bypass (DPDK), hardware timestamping, and lock-free data structures for deterministic, microsecond-level execution performance

Dynamic Portfolio Optimization (Master's Thesis, MScFE, WorldQuant University) | GitHub — Mar 2024 – June 2024

- Built a real-time portfolio optimization system using convex and non-convex optimization methods, enhancing risk-adjusted returns via adaptive asset rebalancing and multi-factor modeling, managing interest rate, FX, credit, and market risks

PROJECTS

Adaptive Volatility Regime Based Execution and Risk Framework | GitHub Sep 2025 – Dec 2025
- Developed adaptive volatility regime switch framework dynamically selecting among passive, TWAP, and aggressive strategies
- Achieved **20.0%** increase in Sharpe Ratio, **6.1%** transaction cost reduction, **20.1%** CVaR decrease with robust risk management

Statistical Arbitrage Reversal and Momentum Strategies (Quant Researcher, WallStreetQuants) | GitHub Jun 2025 – Aug 2025
- Designed and backtested a 120-day volume-momentum-based crypto portfolio strategy, yielding a **155.76%** annualized return and **1.94** Sharpe Ratio (post transaction costs), significantly outperforming the Bitcoin buy-and-hold benchmark

Financial Modelling using Stochastic Calculus Nov 2023 – Jan 2024
- Modeled asset prices & derivative strategies using Brownian Motion, GBM, Ito's Lemma, Martingales, Girsanov's Theorem
- Applied Stochastic Differential Equations (SDEs), Fokker–Planck and Kolmogorov forward/backward equations, Ornstein-Uhlenbeck mean-reverting processes for modeling volatility, interest rates, and time-dependent drift in financial instruments

Environmental Social Governance (ESG) Merger Arbitrage Strategy Apr 2022 – Jun 2022
- Developed the ESG Strategy that was further converted to a portfolio and embedded in all the existing portfolios. It caters to the arbitrage opportunity being made by the effect of ESG scores on target and acquirer pre- and post-merger statistics

Blockchain In Retail Jan 2018 – Mar 2018
- Developed a decentralized e-commerce platform to secure and streamline retail transactions with smart contracts, currency conversion, custom hashing and matching algorithms. Using Homebrew, Truffle, MetaMask, Ganache, GETH, Solc, Puppeth

Predicting Stock Price Fluctuation Sep 2017 – Nov 2017
- Implemented a web-crawling algorithm to extract data from social media platforms and applied NLP for sentiment analysis.
- Designed and implemented a Recurrent Neural Network (RNN) with advanced topic modelling to predict market sentiment, enhancing accuracy in sentiment-driven trading signals and supporting alpha generation in trading strategies

QS Rank Predictor Jun 2017 – Jul 2017
- Constructed ensemble machine learning model consisting of multiple Deep neural networks to predict QS World Ranking
- The model also gave suggestions on areas to improve, helping in achieving a world ranking of 301 - 400 for the VIT CS in 2020

ACHIEVEMENTS

1st Place for personal portfolio in Vanguard ETF Trading Challenge | **President** of Stevens Graduate Financial Association

State Rank Holder in **International Science Olympiad** and **International Mathematics Olympiad**

Global Recognition Gold Award (Bank of America)
- Led enterprise-wide AI/ML campaign identifying 64 high-impact use cases on fraud detection, forecasting, and optimization
- Organized 4 large-scale Data Science events across Bank of America, delivering AI/ML lectures to 2500+ employees

Global Recognition Silver Award (Bank of America, 2x)
- For contribution in Total Return Swap Bonds, Futures, Options, and Cash (LOBs) under the Post Trade Processing Team
- Architected and developed AI/ML framework integrating end-to-end tools for building in-house Data Science Projects

CERTIFICATIONS

*Links to certificates are attached as hyperlinks to the respective course names

- **Finance:** CFA Level 1; Bloomberg Market Certification; Financial Engineering and Risk Management Part I & II) (Coursera); Investment Foundations Program (CFA, USA); **The Complete Financial Analyst Training & Investing Course** (Udemy); **Machine Learning for Trading Specialization** (Google Cloud Platform, New York Institute of Finance): (Introduction to Trading, Machine Learning & GCP, Using Machine Learning in Trading and Finance, Reinforcement Learning for Trading Strategies); **Investment Management Specialization** (University of Geneva, UBS): (Understanding Financial Markets, Meeting Investors' Goals, Portfolio and Risk Management, Securing Investment Returns in the Long Run, Planning your Client's Wealth over a 5-year Horizon); **Trading Strategies in Emerging Markets Specialization (**Indian School of Business, ISB): (Trading Basics, Trading Algorithms, Advanced Trading Algorithms, Creating a Portfolio, Design your own trading strategy – Culminating Project); **Finance & Quantitative Modeling for Analysts Specialization** (University of Pennsylvania, Wharton): (Fundamentals of Quantitative Modeling, Introduction to Spreadsheets and Models, Financial Acumen for Non-Financial Managers, Introduction to Corporate Finance); **Corporate Finance and Valuation** (NYU STERN, Aswath Damodaran)

- **Computer Science: Deep Learning Specialization**: (Statistical Inference, Regression Models, Practical Machine Learning, Developing Data Products, Data Science Capstone); **Applied Data Science with Python Specialization** (University of Michigan): (Introduction to Data Science in Python, Applied Plotting, Charting & Data Representation in Python, Applied Machine Learning in Python, Applied Text Mining in Python, Applied Social Network Analysis in Python); **Data Science Foundations using R Specialization** (Johns Hopkins University): (The Data Scientist's Toolbox, R Programming, Getting and Cleaning Data, Exploratory Data Analysis, Reproducible Research); **Data Science Statistics and Machine Learning Specialization:** (Statistical Inference, Regression Models, Practical Machine Learning, Developing Data Products, Data Science Capstone); **Big Data Specialization** (University of California San Diego): (Introduction to Big Data, Big Data Modeling and Management Systems, Big Data Integration and Processing, Machine Learning with Big Data, Graph Analytics for Big Data, Big Data - Capstone Project); **Data Structures and Algorithms Specialization**: (Algorithmic Toolbox, Data Structures, Algorithms on Graphs, Algorithms on Strings, Advanced Algorithms and Complexity, Genome Assembly Programming Challenge); **Algorithms, Part I** & **Part II** (Princeton University)

Interests: Chess, Poker, F1, Martial Arts, Cricket, Boxing, Badminton, Reading, Cooking, Dancing, Psychology, History, Philosophy
Languages: English, Hindi (Fluent); French, Sanskrit, Spanish, Russian (Intermediate); Chinese, Italian, Tamil, Punjabi (Beginner)