SHREEJIT VERMA

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EDUCATION

Stevens Institute of Technology ***GPA: 4.0/4.0*** New York, USA
Master of Science in Financial Engineering Aug 2024 – Dec 2025
Coursework: Market Microstructure, Quantitative Hedge Fund Strategies, Algorithmic Trading Strategies, Differential Equations

Georgia Institute of Technology (Online) Atlanta, USA
Master of Science in Computer Science with Specialization in Computing Systems Aug 2024 – Dec 2025
Coursework: High-Performance Computing, Distributed Computing, Advanced Internet Computing Systems and Applications

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

Carnegie Mellon University, Tepper School of Business New York, USA
Master of Science in Computational Finance – (Program Withdrawn) Aug 2021 – Oct 2021
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, Database Management, Computer Networks, Natural Language Processing (NLP)

EXPERIENCE

LogiNext Solutions Inc (A Transport Automation Platform for Logistics) Mumbai, India
Senior Software Engineer Analytics (Lead Developer in Analytics Department) Mar 2023 – Jul 2024

- Designed and implemented Map Construction Algorithms, 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 Analytics Department to develop a high-performance geospatial mapping application
- Built Large Language Model (LLM) for internal development and query resolution improving bug resolution by 80%

Versor Investments (QR Systems LLP, A New York-based Hedge Fund) Mumbai, India
Quantitative Developer (Merger Arbitrage and Stock Selection Portfolio) Feb 2022 – Oct 2022

- Developed ML-led Order and Execution Management Systems resulting in 20% increased efficiency in trade execution
- Engineered and backtested systematic strategies for merger arbitrage, yielding a 15% improvement in alpha capture
- Employed risk-adjusted return modeling to optimize risk exposure, leveraging factor analysis and statistical arbitrage
- Managed a combined AUM of $8.5 Billion for the Merger arbitrage portfolio and the Stock Selection Portfolio

BA Continuum India Pvt. Ltd. (A Non-Bank Subsidiary of 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 platform. Integrated C++ to store trades in the object-oriented database SANDRA, reducing trade processing latency by 50%.
- Led migration of over 1 Million lines of code to Python 3.8, increasing execution efficiency by 80% and system scalability
- Developed trading services for Total Return Swaps, Bonds, Futures, and Options within the Post Trade Processing team

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

- Architected and developed a ML/AI platform to deploy predictive models, increasing decision-making accuracy by 67%
- Designed machine learning models for data validation rules prediction, reducing 96 full-time equivalents (FTEs)
- Maintained Big Data Sandbox used by over 2500 associates integrating Hadoop, Hive, Pig, Spark, and Kafka

SKILLS

- **Mathematics/Statistics:** Probability, Stochastic Calculus, Partial Differential Equations, Linear Algebra, Numerical Methods
- **Quantitative Finance**: Statistical Modeling, Derivative Pricing, Time Series Analysis, Factor Modeling,Predictive Modeling
- **Machine Learning**: Random Forest, Clustering, Linear & Logistic Regression, Lasso & Ridge Regression, Neural Networks
- **Programming**: Python, C++, C, Java, R, MATLAB, OCaml, Nuprl, JavaScript, Node.js, ReactJs, SQL, KDB/Q, BQL, VBA, NumPy, Pandas ,TensorFlow, Scikit-learn, SciPy, OpenMP, QuantLib, Statsmodels, QtPy, Git, JIRA, Agile, Bash Scripting
- **Data Engineering:** Big Data Management, Airflow, Dask, Redis, Cassandra, Spark, Hadoop, Docker, Cluster Computing
- **Computer Science:** Distributed Systems, Parallel Computing, Cloud Computing, Blockchain, Advance Operating Systems
- **Technologies/Systems:** Low-Latency Network Protocols, High-Frequency Trading (HFT), FPGA, AWS, Kubernetes, Linux

PROJECTS

Dynamic Portfolio Optimization (Master's Thesis, Capstone Project) Apr 2024 – Jun 2024

- Engineered dynamic portfolio optimization leveraging stochastic calculus to mitigate interest rate, currency, credit, and market risks, enabling real-time portfolio adjustments for enhanced risk-adjusted returns

Financial Modeling using Stochastic Calculus (WorldQuant Stochastic Calculus Course) Nov 2023 – Jan 2024

- Applied advanced stochastic calculus models: Brownian Motion, GBM, Ito's Lemma, Martingales, Stochastic Differential Equations (SDEs), Fokker-Planck and Kolmogorov equations, Girsanov's Theorem, and Mean-Reverting Processes (Ornstein-Uhlenbeck) for asset price modelling, option pricing, and derivatives trading strategies

Advanced Derivatives Modeling (WorldQuant Derivatives Course) Jul 2023 – Sep 2023

- Implemented advanced derivative pricing models: Black-Scholes, Binomial, Monte Carlo, Heston, SABR, Local Volatility, and Interest Rate Derivatives (Hull-White, LMM) providing robust risk management and pricing accuracy

ESG Merger Strategy Apr 2022 – Jun 2022

- Developed ESG Strategy which further got converted to a portfolio and got embedded in other 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

Real-Time Market Anomaly Detection Using Signal Processing and Algorithm Optimization Dec 2021 – Mar 2022

- Developed a low-latency algorithm to detect market anomalies, such as sudden price jumps or volatility spikes, leveraging advanced signal processing and algorithmic optimization techniques for high-frequency trading (HFT) applications

Full Stack Development Apr 2018 – Jun 2018

- Implemented prototypes of Amazon, Twitter, YouTube, Spotify, Zoom, and LinkedIn with core functionalities to garner experience in full stack and system design. Utilized JavaScript, Node.js, React, Django, Firebase, MySQL, PHP, HTML,CSS

Blockchain In Retail Jan 2018 – Mar 2018

- Developed a blockchain system for securing and simplifying retail transactions, incorporating currency conversion, hashing, and matching algorithms. Utilized Smart Contracts, Node.js, Homebrew, Truffle, MetaMask, Ganache, GETH, Solc, Puppeth

Predicting Stock Price Fluctuation Sep 2017 – Nov 2017

- Implemented web-crawling algorithm to extract data from social media platforms, and applied NLP to do sentiment analysis.
- Designed and implemented a Recurrent Neural Network (RNN) with advanced topic modeling 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; VIT CS department achieved a world ranking within 301 - 400 in 2020

WORK ACHIEVEMENTS

Global Recognition Gold Award (twice)

- Led ML & AI awareness program. Conducted brainstorming sessions among app teams and identified 64 AI/ML use cases
- Organized 4 large-scale Data Science events, delivering AI/ML lectures attended by over 2,500 employees

Global Recognition Silver Award (twice)

- For contribution in Total Return Swap Bonds, Futures, Options, and Cash (LOBs) under the Post Trade Processing Team
- Designed Machine Learning & AI Architecture Framework and also added several use cases in the ML & AI field

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), **Machine Learning for Trading Specialization:** (Introduction to Trading, Machine Learning & GCP, Using Machine Learning in Trading and Finance, Reinforcement Learning for Trading Strategies), **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 (Coursera):** (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: Reading, Music, Culinary Arts, Badminton, Chess, Dancing, Fitness, Psychology, History, Literature, Philosophy
Languages: English, Hindi (Fluent); French, Sanskrit, Spanish, Russian (Intermediate); Chinese, Italian, Tamil, Punjabi (Beginner)