Vardhan Lohia

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EDUCATION

Nanyang Technological University   **Singapore**
- Bachelor of Engineering in Computer Science   Aug 2021 – May 2025
    - NTU Science and Engineering Merit Scholarship, President Research Scholar
    - Specialisation in Artificial Intelligence, Minor in Mathematics
    - Major CGPA: 4.6/5.0
    - Accelerated Bachelor's Program
    - Relevant Coursework: AI, Data Science, Advanced Statistics, Business Finance, Neural Networks, Stochastic Process, Financial Mathematics, Financial Econometrics

Chartered Financial Analyst (CFA)   **Singapore**
    - CFA Level 1 Passed (90th Percentile)   Nov 2023

IGCSE Advanced Level (A Level)   **Singapore**
    - DPS International School: Mathematics, Physics, Chemistry, Biology (All 4 A*)   Nov 2020

PROFESSIONAL EXPERIENCE

Monetary Authority of Singapore   **Singapore**
- *Data Analytics, Management & Science Intern*   May 2024 – Aug 2024
    - Explored solutions that utilized a two-step regression model to accurately estimate the fair value of the US 10-year Treasury bill, enabling traders to generate alpha by capitalizing on precise market valuations, resulting in 72bp of alpha.
    - Enhanced regulatory content retrieval efficiency from the MAS website using a Claude-based RAG model, achieving a 40% productivity increase and halving response times.
    - Spearheaded in automating rigorous auditing and compliance processes for procuring external vendors, ensuring stringent adherence to financial regulations, cutting audit cycle times by 35%.
    - Optimized financial data workflows with robust engineering pipelines, reducing processing time by 70% and increasing model accuracy by 25%.

Singapore Airlines   **Singapore**
- *Information Technology Security Specialist Intern*   Jul 2023 – Dec 2023
    - Leveraged advanced modelling techniques to quantify the financial implications of security vulnerabilities, contributing to more informed decision-making at the intersection of IT security and finance.
    - Establish and lead collaboration with cross-functional teams to implement cybersecurity protocols and manage security breaches, including handling of response and resolution.
    - Enhancing cyber defence by designing simulated cyber-incidents and undertake proactive measures for identification, analysis, and containment of threats.

Panasonic   **Singapore**
- *Advanced AI Algorithm Developer Intern*   May 2023 – Jul 2023
    - Utilized quantitative skills to identify defects in video matting and implemented anomaly detection algorithms, resulting in a 25% reduction in defects.
    - Leveraged expertise in deep learning and AI by implementing the PPNET model using PyTorch with features that infers alpha and foreground data of 14,000 entities simultaneously and significantly improving the video matting model by 82%.

LEADERSHIP

- **Treasurer for NTU Blockchain Club -** Demonstrated expertise in managing the operations of blockchain initiatives.
- **Football Captain for NTU Hall (Saraca Hall) -** Created and led football team in flagship inter-hall competitions, with over 200 players throughout resident halls and disciplines.
- **Chief Group Leader for Orientation Program NTU** - Conducted and supervised campus-wide workshops and ice-breaking sessions for freshman undergraduates joining into Computer Science course with over 500 participants.

PROJECTS

- **Monte Carlo Option Pricing:** Created pricing of European options with stochastic volatility. The simulation used standard Euler Discretization and the price of the underlying was assumed to follow Geometric Brownian Motion.
- **Delta Hedging Simulation**: Developed a Delta Hedging Simulation to manage European Options, ensuring a delta-neutral portfolio through adaptive adjustments based on statistical models.
- **Bond Valuation** – Bond valuation script with convexity and sentiment analysis to find fair value of bonds.
- **KSPV Group** – Assisted in fundraising for Khan Academy. Raised over $4,000 in 2 days by reaching out to 10,000 people.

SKILLS & CERTIFICATION

- **Languages:** English, Hindi, French (Level 1), German (Level 1)
- **Technical:** Python, C, C++, Java, SQL, JavaScript, Ruby, Bash, Linux, Git, HTML, CSS, React, Excel, PowerPoint
- **Certificates & Events:** Bloomberg Market Concepts, Goldman Sachs Engineering Virtual Program, JP Morgan Chase Software Engineering Virtual Experience, AWS Specialization, Applied Social Network Analysis in Python, Python Data Structures