DOAN NGUYEN TRI

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SUMMARY

Final-year Data Science student specializing in quantitative finance, algorithmic data analysis, and predictive modeling. Experienced in designing robust data pipelines, backtesting trading strategies, and deploying modern statistical models (CAPM, MPT, Monte Carlo) to extract actionable financial intelligence. Proficient in Python (Pandas, NumPy, SciPy) and SQL. Highly passionate about building scalable quantitative analytics tools and bridging the gap between raw market data and institutional-grade investment insights.

EDUCATION

Bachelor of Data Science - Financial Analyst **Expected Graduation: Sep. 2026**
Concentration: Quantitative Finance & Financial Econometrics *Ho Chi Minh City, Vietnam*
Key Coursework & Application:

- **Derivatives & Investment Analysis:** Applied quantitative models (CAPM, Monte Carlo) to optimize risk-return performance based on Modern Portfolio Theory.
- **Time Series Analysis & Econometrics:** Applied statistical techniques to analyze financial datasets, including rolling correlation and divergence detection in FX Macro-Dynamics.

QUANTITATIVE & DATA PROJECTS

DNT Quant Lab: AI-Driven Analytics Platform **Mar. 2026 - Present**
Role: Full-Stack Quant Developer | Tech Stack: Python, FastAPI, Gemini API, Pandas, SciPy, Docker

- **Automated Data Engineering:** Architected an automated, robust data extraction pipeline to continuously ingest, clean, and synchronize real-time market data, ensuring high-fidelity inputs for quantitative modeling.
- **AI-Powered Investment Advisory:** Successfully integrated the **Gemini AI API** to dynamically analyze complex Monte Carlo simulation outputs and portfolio risk metrics (VaR, Sortino, Alpha), automatically generating professional and actionable investment strategies.
- **Scalable System Architecture:** Developed a high-performance, containerized backend environment using **FastAPI** and **Docker** to handle heavy algorithmic computations and stream AI insights seamlessly to a responsive frontend dashboard.

VN30 Quant Analyzer (V2.0) **Mar. 2026 - Present**
Role: Full-Stack Quant Developer | Tech Stack: Python, Streamlit, Pandas, SciPy, Entrade API

- Engineered an automated, anonymous **Custom API Fetcher** targeting DNSE institutional endpoints to harvest daily OHLCV data for 1,600+ equities, bypassing third-party rate limits and token requirements.
- Resolved complex intraday timestamp discrepancies between individual stocks and the VNINDEX by implementing `.dt.normalize()` workflows, ensuring perfect data alignment for quantitative modeling.
- Optimized server-side memory and prevented IP blacklisting by architecting a Smart Caching layer (`@st.cache_data` with 24h TTL), achieving millisecond response times for concurrent users.
- Implemented an automated **Advanced Risk Engine** computing institutional-grade metrics (Beta, Jensen's Alpha, Sortino, VaR 95%) using vectorized operations in NumPy.

Robo-Advisor for Vietnamese Stock Market **Dec. 2025**
Role: Main Coder & Model Builder | Tech Stack: Python, Algorithmic Trading Logic

- Spearheaded the core development of an automated investing "Robo-Advisor" tailored for the VN-Index.
- Designed and implemented the algorithmic logic to dynamically rebalance portfolios based on predefined risk appetites and changing market conditions.

Adaptive Credit Scoring Model **Dec. 2025**
Role: Data Scientist | Tech Stack: Python, Scikit-Learn, Predictive Analytics

- Developed a machine learning-based credit scoring model capable of adapting to shifting borrower profiles to enhance credit risk assessment.

– Focused on rigorous model validation techniques to ensure high predictive accuracy and minimize false-positive default rates.

US Stock Portfolio Optimization (QuantFolio) **2025**
Role: Quantitative Researcher | Tech Stack: Python, CAPM, Monte Carlo

– Executed **Monte Carlo Simulations (10,000 runs)** to chart the Efficient Frontier and identify optimal asset allocations yielding the maximum Sharpe Ratio for US Tech stocks (AAPL, MSFT, NVDA).
– Conducted historical backtesting against the S&P 500 (SPY ETF) benchmark to validate out-of-sample returns.

FX Macro-Dynamics & Idiosyncratic Risk Analysis **2024 - Dec. 2025**
Role: Data Analyst | Tech Stack: Python, Rolling Statistics

– Analyzed USD/VND exchange rate drivers to decouple global macro impacts (DXY) from domestic risks.
– Implemented **Rolling Correlation Analysis** (60-day window) to detect "Divergence Zones" signaling structural shifts in SBV monetary policy regimes.

TECHNICAL SKILLS

Programming & DB: Python (Advanced), SQL, JavaScript, HTML/CSS.
Quantitative & ML: Pandas, NumPy, SciPy, Scikit-Learn, Linear Regression, Time-series modeling.
Financial Modeling: CAPM, Modern Portfolio Theory (MPT), Monte Carlo, Value at Risk (VaR), Backtesting.
Data Visualization & DevOps: Plotly, Streamlit, Power BI, Matplotlib, Seaborn, Git, API Integration.