

MANH HA NGUYEN

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Work experience

FiinGroup • AI Engineer • Hanoi, Vietnam

January 2026 – Present

- Co-architected & shipped **FiinPro-X MCP & FiinQuant MCP**—production AI protocols connecting LLMs (Claude, Cursor) to VN financial data.
- Engineered indicator search engine by fine-tuning a **22M embedding model on Triton Server** (<6ms latency, 98.3% Recall@10).
- Architected multi-service document intelligence pipeline with OCR workers and layout reconstruction, cutting processing time by 90% and duplicate API costs by 100%.
- Built autonomous self-healing scraper: detects DOM failures, regenerates extraction rules via LLM, and self-restores in sandbox.

Goline Corporation • Quantitative Analyst Intern • Hanoi, Vietnam

December 2025 – January 2026

- Engineered quantitative research pipeline for intraday futures, progressing from statistical arbitrage to Machine Learning strategies.
- Developed alpha signals via Neural Networks, Gradient Boosting, and Genetic Algorithms to capture non-linear market dynamics.
- Implemented Walk-Forward Optimization and event-driven backtesting to eliminate look-ahead bias across market regimes.

CREST (Research Centre) • Research Assistant in AI • Adelaide, Australia

November 2024 – January 2025

- Developed multi-agent Finance Assistant using LangGraph & LangChain with custom Self-RAG + Corrective-RAG architecture.
- Optimized retrieval pipeline via RAGAS & Milvus (Hybrid Search: BM25 + dense reranking), validated on 1,000+ documents.
- Fine-tuned ModernBERT on synthetic queries for multi-agent classification, matching LLM accuracy with lower latency.

Adelaide Data Science Centre • Research Assistant • Adelaide, Australia

November 2023 – January 2024

- Processed 20M+ fuel price records (R/Tidiverse) and mapped 90.3% of stations (Python/OSMnx) for geospatial analysis.
- Forecasted price trends using ARIMA and Prophet models to enable postcode-based station proximity calculations.

Projects

Vietnamese Stock Market Financial Reasoning Agent • FastAPI, Docker, LangChain, Python

- Architected an autonomous agent decomposing complex financial queries into parallel sub-tasks using 7+ domain tools.
- Deployed production-ready REST API with automated benchmarking pipelines to evaluate reasoning consistency.

TuViMCP (Horoscope Model Context Protocol Server & Web App) • Next.js, TypeScript, MCP, Python, SQLite

- Built full-stack MCP server and Next.js web application for astrological calculations with stdio/HTTP streaming and structured JSON outputs for LLM agents.

Ultra Efficient Facial Expression Recognition • PyTorch, YOLOv12, Streamlit

- Engineered EfficientNet-B0 ensemble achieving 68.7% accuracy on FER-2013 with only 0.046 GFLOPs; packaged with a YOLOv12n demo.

Skills

- **AI & LLM Systems:** Model Context Protocol (MCP), LangGraph, LangChain, PyTorch, RAGAS, Milvus Vector DB, Transformers, YOLOv12
- **Backend & Cloud:** FastAPI, Next.js, Docker, Triton Inference Server, RabbitMQ, Redis, asyncio, Linux, Git, Databricks
- **Quantitative & ML:** Alpha Generation, Backtesting (Walk-Forward), XGBoost, Scikit-Learn, Time Series (ARIMA, Prophet)
- **Languages:** Python, SQL, R, C++, TypeScript, MATLAB

Education

KU Leuven • Leuven, Belgium

September 2026 – Present

Master of Engineering: Computer Science (Major in Artificial Intelligence)

University of Adelaide • Adelaide, Australia

July 2021 – July 2025

Bachelor of Finance with Bachelor of Mathematical and Computer Sciences (Major in Data Science)

- **GPA:** 3.64/4.0 (Original: 6.375/7.0)
- **Awards:** Adelaide Summer Research Scholarships (2023 & 2024), Academic Partner Scholarship (25% tuition waiver).