Huynh Quoc Viet

Artificial Intelligence Intern

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EDUCATION

FPT University — Ho Chi Minh City, Vietnam
Bachelor of Engineering in Artificial Intelligence — *Expected Jan 2027 GPA: 8.04/10.0*

- **Honors:** Honorable Student of the Semester (Semester 5).
- **Relevant Coursework:** Data Structures and Algorithms, Linear Algebra, Deep Learning, Statistical Analysis, Machine Learning, Computer Vision.

HELP University — Kuala Lumpur, Malaysia
Certification: English Proficiency Program — *Feb 2024*

- Engaged in an intensive academic mobility program focusing on cross-cultural communication and presentation skills.

RESEARCH & TECHNICAL EXPERIENCE

SpeedyLabX - Student Research Group — FPT University
AI Research Team Member (Project Lead) — *Jan 2025 – Present*

- Leading research on **Regime-Adaptive Stock Forecasting** (Targeting IJCNN/ICONIP); architected a hybrid **HMM-LSTM** model for regime-aware prediction.
- Engineered features from OHLCV data (RSI, MACD) and integrated **Explainable AI (SHAP)** to visualize regime-specific feature importance.
- Conducted walk-forward validation to assess performance using financial metrics (Sharpe ratio, Maximum Drawdown).

Personal Protective Equipment (PPE) Detection — Course Project
Deep Learning Engineer — *Sep 2024 – Dec 2024*

- Consolidated 9 public datasets into a unified benchmark for PPE detection, standardizing annotation formats.
- Trained and evaluated multiple object detection architectures (**YOLOv8s/m/l**, RT-DETR) to optimize for accuracy vs. latency.
- Deployed the final model via a **Streamlit** web interface featuring live webcam inference and automated violation reporting.

Face Recognition Attendance System — Individual Project
Model Engineer — *Jun 2024 – Aug 2024*

- Built an end-to-end attendance system using **OpenCV** and **Tkinter** with a custom graphical user interface.
- Implemented **LBPH (Local Binary Patterns Histograms)** for recognition and Haar Cascades for real-time face detection.
- Optimized algorithms to handle partial occlusions (e.g., glasses) and varying lighting conditions.

8-Ball Billiards Computer Vision System — Applied AI Project
AI Engineer — *2024*

- Developed a real-time tracking system using **YOLOv8** to identify balls and predict trajectories in gameplay footage.

- Engineered a hybrid rule-based inference engine to automatically detect fouls, scoring events, and valid shots based on ball dynamics.
- Optimized the pipeline to maintain robustness under challenging conditions such as object occlusion and variable camera angles.

Dynamic Traffic Management System — FPT University
Data & Model Engineer — *Jan 2024 – Mar 2024*
- Developed a computer vision pipeline using **YOLOv8** to detect and classify vehicles from urban traffic camera footage.
- Implemented lane-level spatial analysis to calculate vehicle density and trigger automated mobile barrier adjustments.
- Curated and preprocessed a real-world traffic dataset, handling outlier removal and normalization for robust model training.

LEADERSHIP & ACTIVITIES

NASA Space Apps Challenge — Ho Chi Minh City
Data & Model Engineer (Project: CosmicOptic) — *2025*
- Developed an AI pipeline to analyze stellar light-curve data from the **Kepler Mission** to detect potentially habitable exoplanets.
- Implemented signal processing for transit detection and extracted features like orbital period and transit depth.
- Built a modular full-stack application with a **FastAPI** backend for real-time light-curve visualization and analysis.

FPT Hackathon — FPT University
Competitive Programming Participant — *May 2025*
- Competed in an ICPC-style algorithmic contest, applying dynamic programming and graph algorithms to solve complex problems under strict time constraints.

CERTIFICATIONS

- **AI & Machine Learning:** AI Foundations for Everyone (IBM); Building RAG Agents with LLMs (NVIDIA); Developing an AI Background Generator with NIM (NVIDIA).
- **Data & Software Engineering:** Data Science Fundamentals with Python and SQL; IBM Full Stack Software Developer; Software Development Lifecycle.
- **Ethics & Academic Skills:** Ethics in the Age of AI; Academic Skills for University Success.

SKILLS & INTERESTS

- **Languages:** Python, SQL, Java (Basic), Latex.
- **ML/DL Frameworks:** PyTorch, TensorFlow/Keras, Hugging Face, Federated Learning, Continual Learning, Scikit-learn, OpenCV, YOLO (Ultralytics).
- **Data & Tools:** Pandas, NumPy, Matplotlib, Git, Docker, Streamlit, Weights & Biases (W&B), Linux, Anaconda.
- **Interests:** Computer Vision, Financial Time-Series Forecasting, MLOps, Open Source Contribution.