

# Huynh Quoc Viet

Artificial Intelligence Intern

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## EDUCATION

### FPT University

Bachelor of Engineering in Artificial Intelligence

Ho Chi Minh City, Vietnam  
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

Certification: English Proficiency Program

Kuala Lumpur, Malaysia  
Feb 2024

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

## RESEARCH & TECHNICAL EXPERIENCE

### SpeedyLabX - Student Research Group

AI Research Team Member (Project Lead)

FPT University  
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

Deep Learning Engineer

Course Project  
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

Model Engineer

Individual Project  
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

AI Engineer

Applied AI Project  
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

*Data & Model Engineer*

FPT University  
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

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#### NASA Space Apps Challenge

*Data & Model Engineer (Project: CosmicOptic)*

Ho Chi Minh City  
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

*Competitive Programming Participant*

FPT University  
May 2025

- Competed in an ICPC-style algorithmic contest, applying dynamic programming and graph algorithms to solve complex problems under strict time constraints.

## CERTIFICATIONS

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- **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

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- **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.