Vo Hong Quan

AI Engineer

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SKILLS

- **Languages**: Python, C/C++, MATLAB
- **ML/DL**: Supervised & Unsupervised Learning, Deep Learning, Reinforcement Learning
- **Libraries/Frameworks**: PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, YOLO
- **Tools & Platforms**: Git, GitHub, Linux, Anaconda, Jupyter/Colab
- **Soft Skills**: Problem Solving, Analytical Thinking, Teamwork, Communication

PROJECTS

Portfolio Demo Web

- Built and deployed a personal portfolio web app with **Streamlit**, showcasing machine learning, deep learning projects.
- Integrated interactive project demos, model visualizations, and technical documentation for recruiters and collaborators.

CNN-from-scratch *9/2024 – 10/2024*

- Built a pure-NumPy CNN (Conv2D, MaxPool, BatchNorm, Dropout, Softmax) with manual backprop and optimizers (SGD/Momentum/RMSProp/Adam).
- Implemented forward/backward propagation, activations, optimizers, dropout, and batch normalization Benchmarked on MNIST & synthetic datasets; achieved 99% MNIST accuracy without high-level DL frameworks.

RL-Based Rotary Inverted Pendulum Controller *2/2025 – 6/2025*

- Built a reinforcement learning environment using Simscape model of the rotary inverted pendulum.
- Implemented Soft Actor-Critic (SAC) with MATLAB RL Toolbox for continuous control.
- Swing-up Agent: reach upright in ~2s.
- Balance Agent: maintain stable position.
- Deployed final trained policy to ESP32 for real-time execution.

WORK EXPERIENCE

Research Assistant – Robotics Lab, HCMUTE *2/2025 – Present*

- Supported reinforcement learning model training and real-time testing for control systems.
- Assisted in designing reward functions and tuning hyperparameters for reinforcement learning agents

EDUCATION *8/2022 – Expected 8/2026*

HCMC University of Technology and Education | *Bachelor of Robotics and Artificial Intelligence*
Relevant Coursework: Machine Vision, Artificial Intelligence, Artificial Neural Network, Practice of Artificial Intelligence