

Profile

Innovative and driven Chemical Engineering graduate with strong interdisciplinary experience in AI model optimization, deep learning, and materials development for environmental applications. Recognized for bridging the gap between experimental chemistry and computational intelligence, with hands-on expertise in machine perception, model deployment on edge NPUs, and the synthesis of functional materials for CO₂ capture and sensing. Skilled in Python, C++, and CUDA, with a deep understanding inference efficiency, and embedded AI systems. Demonstrated ability to lead research projects, publish in peer-reviewed journals, and deliver real-world applications - from deep learning pipelines to sustainable engineering solutions. Seeking to contribute to cutting-edge research in digital chemistry, robotics, and intelligent materials.

Education

Chemical Engineering, BSE

Ho Chi Minh City University of Technology

October 2019 - November 2023

- GPA: **8.7/10** (Top **10%** of class, First Class Honors equivalent)

Employment

AI Compiler Engineer

BOS Semiconductor ([LinkedIn](#))

July 2024 – Present

- Designed and optimized compiler algorithms for deploying deep learning models on RISC-V-based NPU hardware for Advanced Driver Assistance Systems (ADAS).
- Developed efficient inference implementation of ResNet, YOLOv7, YOLOv8, and UniAD models.
- Implemented and tuned high-performance C++ kernels for complex operations (e.g., deformable convolution, attention).
- Mentored 6 fresher engineers and documented workflows to ensure code reproducibility and maintainability.

Machine Learning Engineer

Graystone Data Systems Vietnam

February 2024 – April 2024

- Applied computer vision techniques to real-world industrial challenges (detection, segmentation, tracking).
- Fine-tuned, evaluated and train CNN models using PyTorch and OpenCV.

Projects

Food Ordering Web Application ([Github](#))

ATCOLLABO Hackathon ([Website](#))

December 2023 – January 2024

- Build a backend for a food ordering website (Spring Boot, MySQL, JWT) in a team of 6.
- **2nd prize**, ATCOLLABO Hackathon 2023.

Novel zeolite-based composite preparation for CO₂ adsorption (*Published in Chemosphere, DOI*)

Ho Chi Minh City University of Technology

December 2022 – June 2023

- Co-developed a novel bead-like zeolite-chitosan composite via phase inversion and solvent exchange techniques.
- Characterized material using SEM, XRD, and adsorption isotherms, demonstrated **98% regeneration efficiency**.

Rechargeable Oxygen Sensor Research

The 10th Science and Technology Symposium, HCMUT

September 2021 – June 2022

- Developed zeolite-based material with 2-Hydroxymethyl Anthraquinone for gas-phase oxygen sensing applications.
- Achieved **3rd prize** in university-level research competition.

Depplastify the Campus – BK CyCup ([Link](#))

Schoolab Asia ([LinkedIn](#))

October 2020 – March 2021

- Led a campus initiative to **reduce single-use plastic** at HCMUT through a reusable cup system.
- Designed, tested, and launched BK Cycup, a borrow-return cup prototype, with support from Schoolab and AYA Cup.

Publications

1. Nguyen Minh Phuoc, **Lu Thanh Thien**, Nguyen Thi Truc Phuong, Ngo Tran Hoang Duong, Nguyen Van Dung, Nguyen Quang Long. "Novel chitosan-zeolite X composite beads prepared by phase-inversion method for CO₂ adsorptive capture.". *Chemosphere*, 2024. <https://doi.org/10.1016/j.chemosphere.2024.141538>

1. Cuong D.T., Phuong N.T.T., Phuoc N.M., **Thien L.T.**, Duong N.T.H., Van Dung N., Long N.Q. "Synthesize and Investigate the Applicability of Carbon Dioxide Capture of Zeolite-based Geopolymer Materials.". *Chemical Engineering Transactions*, 2023. [Scopus Record](#)

Skills

- **Programing Languages:** Python, C++, Java
- **Libraries and Frameworks:** PyTorch, OpenCV, CUDA, Spring Boot.
- **Deep learning:** CNNs, Attention Mechanism, Machine Perception and Planning, Model Optimization for Edge Devices.
- **Chemistry:** Materials synthesis and physico-chemical characterization (phase-inversion, adsorption isotherms, XRD, SEM), Sustainable and Scalable materials for environmental applications.

Course Work and Certificates

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|---|---|
| • CUDA Programming – University of Illinois (<i>Summer 2024</i>) | • Deep Learning Specialization – Andrew Ng |
| • Machine Learning Specialization – Andrew Ng | • IELTS: 6.5 Overall (<i>May 2021</i>) |