

THANH LONG NGUYEN

AI & Computer Vision Engineer

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EXPERIENCE

Machine Learning Engineer

Control Technology Co. Ltd

07/2023 – Present Taiwan

- Developed and deployed **YOLO**-based defect detection integrated with **Halcon**, achieving **80%+** accuracy; built custom post-processing to reduce false positives/noise.
- Built and optimized a machine learning inference pipeline using **Microsoft.ML** and **ONNX Runtime in C#**, enabling faster and more reliable positioning detection for industrial equipment.
- Designed and implemented a **LangChain-based multilingual chatbot** to retrieve and present technical documentation in simplified Chinese, assisting factory operators in troubleshooting and information lookup.

Research Assistant – Robotic Lab

National Cheng Kung University (NCKU)

01/2021 – 01/2023 Tainan, Taiwan

- Conducted research on lung tumor datasets for NCKU Hospital, including data acquisition, cleaning, and annotation.
- Built a comprehensive database of **lung CT scans** to support medical research and AI model training.
- Developed deep learning models for detecting lung tumors from CT scan data.
- Implemented 3D reconstruction techniques to visualize tumors and lungs for medical analysis.

Mobile Developer & ML Engineer

D-Soft, JSC

01/2019 – 01/2020 Danang, Vietnam

- Developed **FaceLog**, a face detection system for Android using **FaceNet & ANN**.
- Implemented real-time face recognition algorithms optimized for mobile devices.

LANGUAGES

English ● ● ● ● ●
Vietnamese ● ● ● ● ●
Chinese ● ● ● ● ●

EDUCATION

Master of Computer Science, Department of Computer Science and Information Engineering

National Cheng Kung University, Tainan, Taiwan

01/2021 – 01/2023 Tainan, Taiwan

- GPA: **3.96/4.5**.
- Appreciation for NCKU Vietnamese Student Association (2021)

B.Eng. in Electronic & Telecommunication Eng.

Danang University of Technology

01/2015 – 01/2020 Danang, Vietnam

- GPA: 3.65/4
- The Scientific research club Pioneer (2015-2020)
- Joined researching activities. Sharing experiences about study for freshman and second students
- Electronic and Telecommunication Youth Union (2016-2019) - Deputy leader of Young Union

TECHNICAL SKILLS

Program Language: Python C++ C#
Java JavaScript
ML/DL: PyTorch TensorRT
TensorFlow ONNX Microsoft.ML
LangChain RAG
CV/Tools: OpenCV Halcon Qt Git
Visual Studio
Models: YOLO Transformers
LLMs (Llama, Mistral, GPT-3.5)
Deploy: Jetson Raspberry Pi Docker
Linux Windows

PROJECTS

Defect Detection in Wafer Manufacturing

📅 01/2023 – 10/2023

- CV models and ML pipelines for wafer defect/positioning detection.
- Built a local assistant using **LLMs** (Llama, Mistral, GPT-3.5) for troubleshooting.

Manual Nodule Labeling UI for NCKU

📅 01/2021 – 01/2023

- **Phase 2:** 3D nodule labeling with Transformer-based model.
- **Phase 1:** Assisted doctors using a **CNN**-based pipeline.

Medicinal Plant Identification App

📅 01/2018 – 01/2019

- Built a plant classification model using YOLOv3 and image processing. Created a database of traditional Vietnamese medicinal plants for research purposes.

Danang Smart Parking

📅 01/2018 – 01/2020

- Raspberry Pi & LoRa vision system; Android app with **Google Maps API**.

PUBLICATIONS

3D Interactive Segmentation for Lung Nodule Labeling

CVGIP 2025

📅 08/2025

- Authors: Phong-Phu Le, **Thanh-Long Nguyen**, Chao-Chung Chang, Chia-Ying Lin, Yi-Ting Yen, Yau-Lin Tseng, Ching-Ting Tu, Jenn-Jier James Lien.
- Method: iSegFormer + STCN. mNoC **9.1 @ 85% IoU**, **12.4 @ 90% IoU** on NCKUH dataset.

SOFT SKILLS

Leadership

Critical thinking

Design thinking

Teamwork

Presentation

Problem-solving

REFERENCES

Prof. Jenn-Jier James Lien

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