Nguyen Tan Loc

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SUMMARY

"As a graduate student in Computer Science at HCMUS, I am pursuing a career as an *AI/ML Engineer* or *Data Analyst*. I am passionate about developing my expertise in Computer Vision and Machine Learning to design data-driven solutions that enhance business performance and profitability."

WORK EXPERIENCE

AI Development Intern
Bosch Global Software Technologies Company Limited
Duration: Nov 2024 – May 2025
Type: Full Time
Description:

- Developed an **icon classification system** using **YOLO** and **ViT** for automation testing on a **robot arm** interacting with DUT HMI (Human–Machine Interface) systems, achieving **99% accuracy**.
- Deployed an **automated labeling system** on **CVAT** using **Docker**, with separate **YOLO** and **ViT** models trained for each screen, achieving **95% labeling accuracy**.
- Evaluated multiple **OCR models** for text recognition, including **GOT**, **EasyOCR**, and **PaddleOCR**, and conducted comprehensive benchmarking.
- Developed and tested **robot arm automation** for HMI screen interactions.
- Built and deployed an AI service platform using **FastAPI** and **Redis**, enabling the team to run and access AI models through a unified API.
- Utilized **BERT** to detect **dynamic components** in log files.

SKILLS

Technical Skills

- Programming Languages: Python, C++
- Development & Deployment: Docker, Linux
- Version Control & Experiment Tracking: Git, GitHub, MLflow, DVC
- Computer Vision: YOLO, Vision Transformer (ViT)
- Frameworks & Libraries: OpenCV, PyTorch, FastAPI
- Knowledge: Maths (Statistics, Linear Algebra...)

Soft skills

- Critical thinking, Data-driven decision-making
- Teamwork collaboration

PROJECT

MAR 1, 2024 – APR 20, 2024 (LINK 🔗)
Face Aging Model Using StarGAN. End-of-Semester Project - 9.0/10.
Team project

Collaboratively utilizing **Python**, the project focused on developing a generative adversarial network (GAN) that can simulate the aging process on facial images. Improving the capabilities of **StarGAN**, the model can transform facial images across different age groups while maintaining the individual's unique features.

JAN 15, 2025 – AUGUST 19, 2025 (LINK 🔗)
Defensive Strategy for Explainability in Deep Neural Networks Under Adversarial Attacks. Undergraduate Thesis - 10/10.
Publication – Accepted as a FULL paper at ICCCI 2025 (Springer CCIS)

- Investigated adversarial vulnerabilities in gradient-based explanation methods.
Proposed NODA to defend against adversarial attacks on model explanations.
- Evaluated NODA on CIFAR-10 and ImageNet subsets using ResNet18.
- Demonstrated improved explanation robustness without compromising model accuracy.

EDUCATION

10/2021 - PRESENT	**Bachelor of Computer Science** University of Science HCMC *GPA: 3.83/4*
08/2019 - 08/2021	**Science Department** Gia Dinh High School *GPA: 9.03/10*

LANGUAGE CERTIFICATION

English: - Listening: *435/495*
- *Reading: 405/495*
- *Speaking: 120/200*
- *Writing: 170/200*

French: *Currently learning*