SON HONG NGUYEN

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Computer Vision Engineer

AI Engineer specializing in computer vision, with strong experience in image classification, object detection, segmentation, and style transfer. Skilled in developing and deploying models into production environments. Graduated with a Bachelor's degree in Data Science from HCMIU. Published researcher with 2 submitted journal papers. Passionate about building intelligent systems that solve real-world problems.

Technical Skills

Programming Languages	Python, SQL
ML / Deep Learning Frameworks	PyTorch, OpenCV
Computer Vision	Classification, Detection, Segmentation, Style Transfer, Face Recognition
CV Models & Libraries	MTCNN, FaceNet, InceptionResnetV1, MediaPipe, AdaIN, ResNet
Tools & Environments	Git, Linux, NVIDIA Jetson Nano, SMB Protocol
Other	Data preprocessing, model evaluation & optimization, Flask, FastAPI, SQLite, PostgreSQL

Experience

AI Engineer Intern   *July 2024 – October 2024*
Velox Tech Company

- Cleaned, preprocessed, and curated datasets for model training.
- Analyzed model outputs, error modes; recommended improvements.
- Designed and implemented a distributed PostgreSQL database to synchronize data between lab & environment systems.

Education

Bachelor of Data Science   *2021 – 2025*
HCMIU (Vietnam National University Ho Chi Minh City)

Relevant coursework: Machine Learning, Deep Learning, Computer Vision, Statistics, Data Mining, Data Analysis, etc.

Publications

ORCID iD: 0009-0009-3767-124X

- Learned Weighted Hypotheses Union for Robust Prompt-based Segmentation
1st Author · Submitted · Engineering Applications of Artificial Intelligence (Elsevier, IFAC)

- Enhancing Multi-Region Stylization with Interior-Guided Boundary Repair
1st Author · Submitted · Multimedia Systems — Springer Nature

Projects

• Face Recognition System v3 (FRS)
PyTorch · MTCNN · FaceNet · MediaPipe · Silent-Face · FastAPI · OpenCV
Biometric authentication with 512-d FaceNet embedding, MTCNN face detection, liveness detection via CNN ensemble, iris gaze tracking. Cosine similarity matching.

• **Prompt-guided Multi-Region Image Style Transfer**

PyTorch · AdaIN · SAM · CLIP · OpenCV

Segments objects from text prompts, applies AdaIN style transfer per region with interior-guided boundary repair. Subject of 2 submitted journal papers.

• **[SonDrive — Personal Cloud File Manager](#)**

FastAPI · FaceNet · smbprotocol · SQLite · WebRTC

Self-hosted web file manager with AI-powered biometric login, SMB NAS backend, media streaming, ZIP download, shareable links with expiry, PDF preview.

• **[Warehouse Management System v1.0](#)**

Python · Flask · SQLite · PBKDF2 · REST API · Gunicorn · Nginx

Multi-tenant inventory platform with per-user isolated SQLite databases, real-time stock tracking, time-series analytics, full audit trail with JSON diffs, employee scheduling.

• **[TaskMaster v2 — Deep Work OS](#)**

Python · Flask · SQLite · SSE · Argon2

Productivity platform with Eisenhower matrix, Pomodoro sessions, streak tracking, SSE real-time push messaging, group collaboration, democratic task voting.

• **Real-time Human Alert System**

PyTorch · OpenCV · NVIDIA Jetson Nano

Deployed optimized detection model on NVIDIA Jetson Nano for region monitoring with real-time alerts. Model optimization for edge inference.

• **ResNet Models from Scratch**

PyTorch · Python

Implemented ResNet architectures from scratch and applied to image classification tasks.

Certifications & Languages

• **IELTS Academic:** 5.5 (Tested on 08 August 2025) — [TRF here](#)
• **Vietnamese:** Native speaker