CURRICULUM VITAE

PERSONAL INFORMATION

DUONG Ly Cao

Senior AI Researcher, Vision-in
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Gender Male | Date of birth 16/02/1995 | Nationality Vietnamese

I graduated from Ho Chi Minh City University of Technology and subsequently attained a Master's degree from Pukyong National University in Busan, South Korea, specializing in Electrical & Biomedical Engineering. My academic pursuits have predominantly revolved around signal processing and image processing, particularly within the domains of Automation Systems and Medical Devices. Currently, I serve as a Researcher at Inha University, where I am committed to diligently fulfilling my professional responsibilities.

EDUCATION AND RESEARCHING

From September 2021 to October 2022

Ohlabs - Pukyong National University, Busan, Republic of Korea

Cooperation Researcher

Publications:

- Fcg-Former: Identification of functional groups in FTIR spectra using enhanced transformer-based model. Analytical Chemistry (2024) – Accepted on 28 June 2024
- Smart Low Level Laser Therapy System for Automatic Facial Dermatological Disorder Diagnosis. IEEE Journal of Biomedical and Health Informatics (2023)

From September 2018 to September 2021

Pukyong National University, Busan, Republic of Korea

Master’s degree in Electrical and Biomedical Engineering
Graduated date: 08/2020
GPA: 4.25 / 4.5

Patents:

- High-speed scanning photo-acoustic image input apparatus and control method therefor. US Patent App. (2024)

Publications:

- Full-view in vivo Skin and Blood Vessels Profile Segmentation in Photoacoustic Imaging based on DeepLearning. Photoacoustics (2022)

From August 2013 to April 2018

Ho Chi Minh City University of Technology

Bachelor's degree in Biomedical Engineering
GPA: 8.0 / 10.0

Publications:

- Model of colposcopy using polarized light and effective early, *ISEPM,* Ho Chi Minh, 2017.

WORK EXPERIENCE

From April 2025 to now

Reseacher at Inha University Industry-Academic Cooperation Foundation

Responsibility:

AI-driven solutions for MRI-based medical imaging analysis. Designed and implemented AI algorithms for automated MRI interpretation, with emphasis on 3D segmentation of lumbar and ankle structures.

From June 2022 April 2025

Senior AI Researcher at Vision-in Inc.

Responsibility:

My professional responsibilities encompass research, development, and deployment of deep learning models in the field of Surveillance. Additionally, I provide support to the platform team in optimizing model inference, improving processing time, and increasing the number of channels on multi-platform environments.

Projects:

- Fire and smoke synthetic images generation based on Diffusion and ControlNet
- Human searching based on image description model
- Fire, moke, and human actions detection with limited datasets enhanced with contrastive learning pretrained model
- Developing cross-platform plugins for NX Witness
- Optimizing resources by deploying models and platform on Edge devices (NVIDIA jetson board)

From October 2021 to June 2022

AI Research Engineer at AIDOT Inc.

Responsibility:

Developing deep learning models (detection, classification, segmentation) for ultrasound Carotid Artery diseases.
Optimizing and Quantization models on tablet devices.

TECHNICAL SKILL

Programming Languages	Python	C++	JavaScript
	9/10	8/10	6/10
AI Tools/ Platforms	Pytorch/Tensorflow	ONNX C++	QT
	8/10	8/10	7/10
Others	VTK Toolkit	NX Witness Plugin	Docker
	7/10	8/10	7/10

PERSONAL QUALITIES

Languages	Vietnamese	English	Korean
	Native	Advanced	Basic (KIIP5)

- High motivated and eager to learn new things
- Good at interpersonal skills with an ability to collaborate well and work across team
- Fast seft-learner and team player

ADDITIONAL INFORMATION

Projects

Vision Zero Solution (2025)

Awards:

Achieved second place at the Nx Venue Innovation Hackathon 2025 with the project Vision Zero: AI-Driven Multimodal Safety and Security Enhancement.

Fcg-Former Hugging Face Deployment (2024)

Responsibility:

Deployment of Fcg-Former (Publication paper) on Hugging Face platform for open source contribution in biomedical and chemical research:
https://huggingface.co/spaces/lycaoduong/FcgFormerApp

3D Photoacoustic Visualize Software (2021)

Responsibility:

Developing a 3D viewer software for photoacoustic imaging with VTK (Visualization Toolkit) engine can provide a versatile and powerful visualization tool for analyzing photoacoustic imaging data. Creating software that supports various medical data formats including DICOM, NRRD, and TDMS.

ACTIVITIES

Volunteer of the Green Summer Volunteer Campaign 2014 in Tra Vinh province, help the people build 1800m concrete roads through their village

Volunteer of the National University Entrance Exam Support Campaign 2016, disseminating information, providing information about the examination to examinees, introducing free and cheap motels, restaurant and more

HONORS AND AWARDS

Study encouragement scholarship of 131, 141, 151, 172 semester, Bach Khoa University

Incentive award The 2017 Eureka Student Research Competition with project “Model of colposcopy using polarized light and effective early”