

# Phuong Nam Dang

AI ENGINEER | M.ENG HUMAN-ROBOTICS INTERACTION @ NAIST

Hanoi, Vietnam

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## Education

### Nara Institute of Science and Technology

Ikoma, Nara, Japan

Master of Engineering at Human Robotics Laboratory - Information and Science Division

Oct 2023 - Sep 2025

- Research topic: Develop a personalized human-robot interface for automatic personal mobility vehicles based on passenger personalities, which is a personalized generative model used to communicate with pedestrians via voice response, tailored to each passenger's personality.
- Relevant Coursework: Machine Learning, Deep Learning, Speech processing, Generative AI, Human-Robot Interaction,

### Hanoi University of Science and Technology

Hanoi, Vietnam

Bachelor of Science in Automation and Electrical Engineering

Sept 2018 - Sept 2022

- Graduated with Distinction. GPA: **3.52/4.0**
- 2nd place in the Thesis defense committee
- Thesis: Speaker verification system for telecommunication service
- Certificates: Natural Language Processing in TensorFlow, Convolutional Neural Networks in TensorFlow

### High School for Gifted Students, Hanoi University of Education

Hanoi, Vietnam

Specialization: Physics

2016 - 2018

- Details: Developed a strong foundation in scientific problem-solving and quantitative reasoning.

## Work Experience

### VinMotion - VinGroup

Hanoi, Vietnam

AI/Robotics Engineer (Permanent full-time)

June 2025 - Present

- Developing and deploying Vision-Language Models (**VLMs**) and Vision-Language Action Models (**VLAs**) into next-generation humanoid robot platforms, enabling multimodal perception and decision-making.
- Integrated **LangGraph** and multi-tool calling for high-level task planning, achieving fully autonomous behavior in manipulation and navigation tasks, replacing traditional rule-based methods
- Contributed to the robotics AI framework connecting perception, planning, and control layers
- **Tech stack:** ROS 2, Python, PyTorch, LangGraph, Tool calling, VLA, VLM, Gazebo

### AIS - VMO Holdings

Hanoi, Vietnam

AI Engineer (Contract full-time remote)

May 2025 - Sep 2025

- Built an end-to-end Computer Vision Acceleration Pipeline to optimize model inference latency for large-scale camera systems, reducing time cost for the development phase **50-70%**.
- Package tracking with RF-Detr model: Deploy in warehouse, using image streaming via surveillance camera. Automate package storage processes, reducing labor costs
- LLMs with LangGraph for food-ordering agents: Deploy in food-ordering Kiosk. Automate the food ordering processes.
- **Tech stack:** Python, FastAPI, ONNX, LangChain, LangGraph, LLM, vLM, NLP, ASR, TTS, MLOps

### Human Robotics Laboratory – Nara Institute of Science and Technology

Ikoma, Nara, Japan

Research Assistant (Contract full-time)

Nov 2023 - Sep 2025

- Developed an **Android VR See-Through System** for medical assessment robots, enabling clinicians to observe patient behavior through robot sensors.
- Designed an **Unreal-based VR driving simulator** with integrated AI driving assistant to enhance training and evaluate driver cognition. (Collaborated with Hitachi Corp, Japan)
- **Tech stack:** Flutter, Python, Unity, Unreal Engine, ROS 2

### Viettel Big Data Analytics Center – Viettel Telecom

Hanoi, Vietnam

AI Engineer (Permanent full-time)

Nov 2021 - Sep 2023

- Led the development of a **large-scale speaker verification system** for Viettel Call Center:
  - Built an **end-to-end speaker verification system** to replace OTP and security-question authentication in the call center; deployed using Triton Inference Server.
  - Scaled the system to serve **millions of customers daily**, reducing manual verification workload by **>50%**.
  - Achieved **≈ 99% accuracy** on internal Vietnamese datasets, outperforming existing baselines; ranked **Top 20** in the beginning phase of the **VoxSRC 2022** competition.
- Deploy LLM into the chatbot on My Viettel platform
- **Tech stack:** Python, PyTorch, Nvidia NeMo, Triton, Docker, Kafka, ASR, VAD, NLP, LLM, MLOps

## Viettel Digital Talents Program 2021

AI Intern (Part-time)

- Completed intensive training on core AI and Data Science methods under Viettel's national AI talent initiative.
- Contributed to a Vietnamese speaker verification system for call-center voice analytics, later deployed in production.
- Gained hands-on experience in model development, feature engineering, and deployment workflows.

Hanoi, Vietnam

Apr 2021 - Oct 2021

## Side Projects

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### Fire Detection for Autonomous Firefighting Robot Navigation

Hanoi University of Science and Technology

- Developed a **deep learning-based fire detection system** to guide navigation of an autonomous firefighting robot.
- Implemented and evaluated **YOLO and SSD models**; deploying the system on **NVIDIA Jetson Nano** for edge inference.
- Collaborated with the **Robotics and AI Lab** at HUST.
- **Supervisor:** Prof. Nguyen Pham Thuc Anh, HUST

Hanoi, Vietnam

Nov 2021 - Nov 2022

### Handwritten Mathematical System of Equations Solver

AI for Everyone Course

- Built a **deep learning-based system** to recognize and solve handwritten systems of equations.
- Handled **multiple equation types** including polynomial, high-degree, and no-solution cases.
- **Technologies:** Python, Computer Vision, Deep Learning
- **Supervisor:** Nguyen Thanh Tuan, Founder of AI4E, NEU

Hanoi, Vietnam

Sep 2020 - Nov 2020

### Automatic Number Plate Recognition System for Smart Parking

Hanoi University of Science and Technology

- Developed a **deep learning-based automatic license plate recognition (ALPR) system**.
- Integrated the system with embedded devices via the **RS-485 communication protocol** for smart parking deployment.
- **Supervisor:** Nguyen Quang Nha, UET-VNU

Hanoi, Vietnam

Apr 2021 - May 2021

### Swarm UAV Monitoring Simulation and GUI

VNU University of Engineering and Technology

- Designed a **GUI and simulation** for monitoring swarm UAVs in search-and-rescue scenarios.
- Enabled **testing and visualization of swarm coordination algorithms** prior to real-world deployment.
- Collaborated with researchers at **VNU University of Engineering and Technology (VNU-UET)**.
- **Supervisor:** Nguyen Quang Nha, UET-VNU

Hanoi, Vietnam

Aug 2024 - Dec 2024

## Skills

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<b>Programming</b>	Python (Pandas, PyTorch, NumPy, Scikit-learn, etc.), C/C++, R, MATLAB
<b>MLOps</b>	Pytorch, Tensorflow, Triton, Docker, FastAPI, Jira
<b>ML/DL</b>	Computer Vision, Natural Language Processing, Large Language Models, Agentic AI
<b>Miscellaneous</b>	Linux, Shell (Bash/Zsh), $\LaTeX$ (Overleaf/R Markdown), Git.
<b>Soft Skills</b>	Time Management, Teamwork, Problem-solving, Engaging Presentation.
<b>Robotics</b>	ROS, ROS2, Gazebo

## Languages

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<b>English</b>	Certification: IELTS 6.5
<b>Vietnamese</b>	Native proficiency