

LUONG TIN PHAN, Ph.D.

Robotics Technology Leader | Motion Planning & Control | Physical AI | Industrial Functional Safety

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50+ AMRs R&D TO DEPLOYMENT

Vietnam's first in-house robot FMS; 24-hour, 6-day-a-week production at major FDI sites.

Class 6 ISO 14644 SAFETY-CRITICAL OPS

AMR deployments meeting ISO 13849-1 and ISO 3691-4, incl. Class 6 cleanroom installations.

2 mm AMR positioning PRECISION MOTION

About 5× more precise than typical AMRs (Next Robotics); ~10 cm auto parking.

1st in Vietnam AUTONOMY FIRSTS

Motion planning & control for the first AV on normal public roads at high speed (VinAI).

2026 record sales REVENUE & GROWTH

As CRO, drove the company's all-time-high sales; new markets in Japan & Korea.

■ STANDARDS & SAFETY

ISO 13849-1

Functional safety of machinery control systems

ISO 3691-4

Driverless industrial trucks / AGVs

ISO 14644 Class 6

Cleanroom deployment

■ CORE SKILLS

ROBOTICS

Motion planning · Real-time control · Multi-robot coordination & fleet management · Legged locomotion · SLAM & localization (LiDAR, camera, RTK-GNSS)

SOFTWARE

C++ · Python · ROS · DDS · System & software architecture for continuous, safe operation

LEADERSHIP

Engineering team building & leadership · Product ownership · R&D roadmapping · Customer & partner delivery (Vietnam, Japan, Korea)

EMERGING

Physical AI for humanoids & quadrupeds · LLM integration for service robots

■ PROFESSIONAL SUMMARY

Robotics engineering leader with a Ph.D. in robotics (quadruped locomotion control, Sungkyunkwan University) and a track record of taking robots from R&D to continuous industrial deployment. Built and owned motion planning, real-time control and multi-robot coordination stacks for AMRs, automated parking and autonomous vehicles, including Vietnam's first robot Fleet Management System running 24-hour, 6-day-a-week operations at major FDI manufacturing sites. Leads engineering teams and system architecture for safe, always-on operation, with hands-on delivery against ISO 13849-1 (safety of machinery control systems), ISO 3691-4 (driverless industrial trucks) and ISO 14644 Class 6 cleanroom environments. Currently heading R&D for Physical AI on humanoid and quadruped platforms and LLM-enabled service robots.

■ PROFESSIONAL EXPERIENCE

- **Chief of Revenue & Operations / Head of R&D** **05/2025 – Present**
Next Robotics, Ho Chi Minh City · Head of Robotics & AI Solutions
 - Own presales and client acquisition end to end, from solution design and cost estimation for strategic bids to contract closing; **delivered the company's all-time-high sales in 2026.**
 - Oversee hardware outsourcing, procurement and inventory for cost efficiency, and direct project delivery from planning to on-time, high-quality execution.
 - Opened new markets with two ongoing projects in Japan and Korea, and **won the first Physical AI project with a new strategic customer.**
 - Lead the R&D team on new strategic products: Physical AI for humanoids and quadrupeds, and LLM-based interaction for service robots.
- **Technical Lead** **10/2022 – 05/2025**
Next Robotics (FPT Software spin-off), Ho Chi Minh City
 - Product Owner and system architect of the Fleet Management System (FMS) for AMRs: multi-robot coordination and motion planning; the first robot FMS developed in Vietnam.
 - Achieved 2 mm AMR positioning accuracy, about **5× more precise** than the typical industry level.
 - Led the engineering team from architecture to on-site commissioning at major FDI manufacturing sites; 50+ robots running continuously in 24-hour, 6-day-a-week operations.
 - Engineered deployments to industrial safety standards: ISO 13849-1 (safety-related parts of control systems), ISO 3691-4 (driverless industrial trucks/AGVs), and ISO 14644 Class 6 cleanroom environments.

■ RECOGNITION

- Silver Prize, OpenCV Spatial AI Competition 2020.
- Peer-reviewed robotics research presented at IEEE/RSJ IROS (2 papers) and URAI (2 papers).

■ LANGUAGES

Vietnamese	Native
English	Fluent
French	Basic conversation
Korean	Basic conversation

■ LINKS

WEBSITE

tinrobotics.com

LINKEDIN

linkedin.com/in/luongtinphan

GOOGLE SCHOLAR

scholar.google.com/citations?user=3RO0jCIAAAAJ

PORTFOLIO

nextrobotics.io/portfolio/nextarm

■ PROFESSIONAL EXPERIENCE (CONTINUED)

- **Solution Architect** 10/2021 – 10/2022
FPT Software, Ho Chi Minh City
 - Motion Planning owner and architect for automated car parking and AMR products; ~10 cm parking accuracy and ~3 cm AMR positioning accuracy.
 - Delivered Vietnam's first complete automated parking system (perpendicular, parallel and angled) and the first multi-AMR warehouse deployments in Vietnam.
- **Robotics Software Engineer** 03/2021 – 10/2021
VinAI Research, Ho Chi Minh City
 - Developed motion planning and control for autonomous vehicles using camera and RTK-GNSS localization over DDS middleware; supported public-road testing.
 - Contributed to Vietnam's first autonomous vehicle operating on normal roads at high speed.
- **Robotics Software Engineer** 03/2020 – 04/2021
Rapyuta Robotics, Tokyo, Japan
 - Developed AMR behaviors and LiDAR SLAM on ROS, including an autonomous forklift with partners.
 - Tested and benchmarked robot performance; set up and configured safety devices (SICK laser scanners, proximity sensors).
- **Academic Leadership (part-time, concurrent)** 11/2022 – Present
Nguyen Tat Thanh University; University of Greenwich Vietnam
 - Director, Automa Lab (NTTU); helped launch the undergraduate Electric Vehicle major.
 - Lecturer; designed syllabi for Self-Driving Operating Systems and Motion Planning.

■ EDUCATION

- **Combined M.S./Ph.D., Robotics (Quadruped Robots)** 03/2013 – 02/2020
Sungkyunkwan University, Korea · *Full scholarship*
 - Thesis: Control Strategy for a Running Quadruped Robot with an Articulated Spine. Advisor: Prof. Hyouk Ryeol Choi.
 - Publications: 2 journal articles, 2 IEEE/RSJ IROS papers, 2 URAI papers.
- **Engineer Degree, Automation (PFIEV Program)** 09/2007 – 08/2012
Danang University of Technology, Vietnam