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<https://scholar.google.com/citations?hl=en&user=3RO0jCIAAAAJ>



<https://tinrobotics.com>



PUBLIC EVENTS

04/2026 Represented Next Robotics and achieve Top 10 ScaleX Accelerator Program – NIC, Vietnam

12/2025 Represented Next Robotics and achieve Top 10 Vietleap AI Accelerator 2025 – NIC, Vietnam

05/2025 Invited to the InnoEx & Qualcomm Event as an Alumnus of the Qualcomm Vietnam Innovation Challenge - Top 10 [[Reference](#)]

05/2025 Guest Speaker at the Advantech Vietnam's Webinar "Robotics Solutions for Smart Manufacturing" [[Reference](#)]

04/2025 Guest Speaker at the Konica Minolta Vietnam's Webinar [[Reference](#)]

INDUSTRIAL EXPERIENCE

05/2025 ~ Present Chief of Revenue and Operations,

Head of R&D, Head of Robotics and AI Solutions

Next Robotics, Ho Chi Minh, Vietnam

- Lead Presales initiatives including solution design and cost estimation to support strategic bids
- Manage end-to-end client acquisition processes, from engagement to contact closure
- Oversee hardware outsourcing and procurement operations, ensuring optimal cost-efficiency and inventory control
- Direct project delivery from planning to execution, ensuring timely and high-quality outcomes aligned with client expectations
- Lead R&D team to develop new strategic products

10/2022 ~ 05/2025 Technical Lead

Next Robotics (FPT Software Spin-off), Ho Chi Minh, Vietnam

The Product Owner of the Fleet Management System (FMS) for autonomous mobile robots (AMRs)

The product wirelessly communicates with multiple robots periodically to coordinate their motion, control traffic, assign and manage tasks received from the customer's warehouse management system, and schedule the charging process of robots.

- Led the team in developing the Fleet Management System to coordinate multiple AMRs working in warehouses, manufacturing sites
- Designed the architecture of the module and products

- Improve algorithms for motion planning and multi-robot management
- Communicate product plans and progress to the CTO and CEO.
- Collaborate with sales and marketing teams on sales strategies
- Meet with potential customers to discuss and analyze and propose AMR solutions

The First Fleet Management System for robots, developed in Vietnam, has been deployed at several major FDI companies in Vietnam, controlled over 25 robots performing daily tasks at their sites in 24-hour, 6-day working mode.

Reference: <https://nextrobotics.io/portfolio/nextarm/>

10/2021 ~ 10/2022	Solution Architect
	FPT Software, Ho Chi Minh, Vietnam

The Owner of the Motion Planning module for autonomous technologies in cars and mobile robots

The product uses cameras, radars and ultrasonic sensors to perceive surrounding environments and detect available slots within the car's field of view. Once a parking slot is confirmed by the driver, the motion planning module controls both the steering wheel and gas throttle to automatically maneuver the car into the selected parking slot.

- Led the Motion Planning team to develop the motion planner for the **Auto Parking** feature in Autonomous Car and warehouse applications in Autonomous Mobile Robots (AMRs)
- Designed the architecture of the motion planning module and related products
- Improved the algorithms for high precision positioning (**10** cm in Auto Parking feature and **3** cm in AMR applications)
- Planned the tasks and documented the product's requirements (PRD)

The First in Vietnam to deploy a complete Auto Parking Feature that supports Perpendicular, Parallel and Angle Parking Slot types.

The First in Vietnam to deploy multiple AMRs in industrial warehouses.

Video:

<https://youtu.be/pTBnXuosToo>

<https://youtu.be/oVjflFvbXA>

03/2021 ~ 10/2021	Robotics Software Engineer
	VinAI Research, Ho Chi Minh, Vietnam

Develop motion planning and control for autonomous driving cars

The system uses a camera-based vision system to detect lanes and determine the car's position relative to the lane, then controls both the steering wheel and gas throttle to keep the car in the current lanes. Additionally, the system also uses a RTK-GPS system as an input for improving the localization accuracy.

- Developed motion algorithms for autonomous vehicle
- Used DDS protocol for data communication
- Integrated motion planning and control with other modules to control car behaviors.
- Tested and deployed algorithms in real vehicle in public roads
- Improved vehicle performance for smoother motion at high speeds.

Successfully develop the Vietnam's first autonomous car that can operate in normal

roads at high speeds.

Video: <https://youtu.be/RZoli9RyG9s>

03/2020 ~ 04/2021 Robotics Software Engineer

Rapyuta Robotics, Tokyo, Japan

Develop robot behaviors and motion solutions for mobile robots operated for warehousing, construction applications.

Autonomous mobile robots use a LiDAR-based Simultaneous Localization and Mapping system to determine their current pose in a working environment. There are cameras attached in the robot's body to detect objects (humans, pallets) as inputs for required tasks.

- Worked with big partners in Japan such as Sumitomo NACCO Forklift, Taisei Corporation.
- Planned and discussed demo scenarios, criteria for evaluating projects
- Tested and benchmarked the performance of robots
- Developed behaviors of automatic forklift in navigation, pallet detection, pallet pick and drop actions using ROS topics, services, actionlibs
- Contributed in developing and testing mobile robots in multi-agent scenarios in both simulation and real environments using Gazebo and Rviz
- Utilized ROS navigation stack in mapping and localizing robots
- Gain experience working with both laser-based SLAM (Hokuyo sensors) and vision-based SLAM (Alphasense devices)
- Collaborated with the team to test the UI for interfacing with robots
- Set up, configured safety devices (SICK laser scanners), switches, proximity sensors
- Planned and organized daily and weekly tasks using Wrike
- Use Docker, Github and CI for daily workflows

Projects:

1. Develop multi-robot software stack for automobile robots to deploying in warehouses
2. Develop automatic forklift to work in both indoor warehouses and outdoor environments

Prize: Silver Prize in OpenCV Spatial AI Competition 2020 with Realtime Perception for Autonomous Forklifts > [Details](#)

ACADEMIC EXPERIENCE

11/2022 ~ Present Part-time Lecturer

Ho Chi Minh, Vietnam

Teaching Courses:

University of Greenwich , Vietnam

- Mathematics for Computer Science MATH1179 (2022-2023):
Language of Instruction: English (Oral Presentations & Course Materials)

Nguyen Tat Thanh University, Vietnam

- Automatic Control Systems (2023-2024)
- Introduction to Artificial Intelligence (2024)
- Introduction to Operating Systems on Self-driving Vehicles (2025)
Language of Instruction: Vietnamese (Oral Presentations & Course Materials)

Research:

Director: Automa Lab, Nguyen Tat Thanh University

- Lead academic research on self-driving features on a minicar based on cameras
- Advise a group of multiple Master, Undergraduate students

Other Academic Activities:

- Prepare course materials, assignments, and assessments (period, mid-term, final exams, etc, ...)
- Contribute to the development and launch of a new undergraduate major in “Electric Vehicles”
 - + Collaborated with the faculty and industry experts to design the overall curriculum framework, ensuring alignment with cutting-edge EV technologies and current industry demands
 - + Took lead in drafting detailed syllabi for courses such as “Introduction to Operating Systems on Self-driving Vehicles”, “Motion Planning for Autonomous Driving Vehicles”
 - + Acted as a liaison between the university and industry partners to regularly update skill requirements and adapt the curriculum to enhance student employability and practical readiness

Certificates:**Certificate of Completion for IBSTPI Competencies (approved by FPT Education)**

IBSTPI=International Board of Standards for Training, Performance and Instruction

EDUCATIONAL RECORD

03/2013 ~ 02/2020 Master/PhD Combined Candidate in Quadruped Robots

School of Mechanical Engineering, Sungkyunkwan University, South Korea

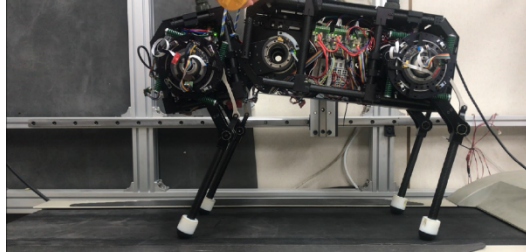
(Ranked #89 worldwide)

- Research on principles of quadruped locomotion.
- Model quadruped robot and optimize the locomotion.
- Simulate control algorithm on MATLAB/Gazebo/ROS
- Implement and utilize the developed algorithm on real systems.
- Build force/torque control algorithms for series elastic actuators, fast motion planning based on polynomial trajectory, Bezier or NURBS curve.
- **One published journal** paper, **One journal** paper in minor review, **2 IROS** conference papers (top 2 in Robotics), **2 URAI** conference papers.
- Award: Full scholarship for **outstanding students** during Ms/Ph.D course
- **Projects:**
 1. *Development of multi-modal legged locomotion technology for applying to high-tech urban environments in the future*



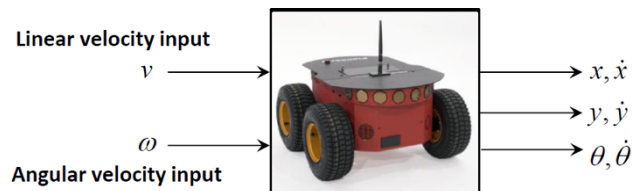
- Design and build quadruped robot for daily service.
- The robot with **12 DOF**
- Use **EtherCAT/ROS** on **Ubuntu**
- Control algorithm is built in **C++**
- Period of time: **01.06.2016 – 31.05.2019**
- Sponsor: Gyeonggi Technology Development Program funded by Gyeonggi Province (code R2016001).

2. *Development of high-speed running quadruped with articulated spinal joint*



- Investigate the effect of whole body compliance on the quadruped running and propose the principles of design and control of the whole body compliance.
- The robot with **10 Degree-of-freedom (DOF)** actuated by **Series Elastic Actuators (SEA)**, 2 DOF per leg, 2 DOF at body
- The robot is able to run at **4km/h**.
- Use **EtherCAT/ROS** on **Ubuntu** as real-time communication protocol
- Control algorithm is built in **C++/Python**
- Period of time: **01.05.2014 – 31.04.2017**
- Sponsor: National Research Foundation of Korea (No.2014R1A2A2A01005241)
- [Demo Video Link](#)

3. *Trajectory planning for mobile robot using **Model Predictive Control (MPC)** to automatically avoid the obstacles*



- Use **MPC** algorithm to re-plan the robot's path to avoid the obstacles on the way to go to the goal points.
- Code built in **MATLAB/C++/Python**
- [Demo Video Link](#)

- **Thesis:**

- **Thesis Title:** *Control strategy for running quadruped robot with articulated spine*
- **Supervisor:** Professor Hyouk Ryeol Choi
 - Director of Robotics Innovatory Laboratory
 - President of Korea Robotics Society
 - Website: <http://mecha.skku.ac.kr>
 - Email: hrchoi@me.skku.ac.kr
 - Phone: +82 31 290 7449

- Selected among **top students** in Vietnam to attend the Excellent Engineer Training Program (PFIEV)-certificated as France qualifications
- **Major:** Automation
- **Scholarship:** Excellent student scholarships 2010, 2011.

KNOWLEDGEABLE SKILLS

- Operating Systems/Platforms: **Windows, Ubuntu, Robot Operating System (ROS)**
- Programming Language Skills: **C++, Python, ROS, MathWorks Matlab**
- Additional skills for robotics: **AI library** (Open AI gym), **Vision** on ROS for perception



PROFESSIONAL ACTIVITIES

- **Reviewer** for the following **conferences**: IEEE Conference on Intelligent Robotics and Systems, IEEE Conference on Robotics and Automation, American Control Conference.
- **Reviewer** for the following **journals**: Advanced Robotics, IEEE Access, Journal of Mechanical Engineering Science, Robotics and Autonomous Systems.

AWARDS

Academic:

Outstanding Foreign Student Scholarship – Sungkyunkwan University, S.Korea (2013–2017)
 Student Excellent Scholarship – Danang University of Technology, Vietnam (2010, 2011)
 Silver Prize in OpenCV Spatial AI Competition 2020 > [Details](#)

Sports:

Soccer Champion in VSAK Tournament 2014, then promoted to be **the team's caption** in following year.

LANGUAGE SKILLS

Vietnamese: native

English: fluent

French and Korean: basic understanding and conversation

PUBLICATIONS

Luong Tin Phan, Chi Thanh Nguyen, Thuan Phat Huynh, Dinh Tu Ly, Hoang Hung Huynh, Thanh Nhan Bui, “Development of Autonomous Driving Features on Mini Car” in International Conference on Science, Technology, and Innovation for Sustainable Development, 2023

Chi Thanh Nguyen, Luong Tin Phan, “Automatic Adjustment of Extrinsic Parameters for Surrounding View System” in International Conference on Science, Technology, and Innovation for Sustainable Development, 2023

Yoon Haeng Lee, Young Hun Lee, Hyunyong Lee, Jun Hyuk Lee, **Luong Tin Phan**, Sungmoon Jin, Yong Bum Kim, Dong-Yeop Seok, Seung Yeon Lee, Hyungpil Moon, Ja Choon Koo and Hyouk Ryeol Choi, “Development of A Quadruped Robot System with Torque-Controllable Modular Actuator Unit” in *IEEE Transactions on Industrial Electronics*, 2020

Luong Tin Phan, Yoon Haeng Lee, Young Hun Lee, Hyunyong Lee, Hansol Kang and Hyouk Ryeol Choi, “Study on Effects of Spinal Joint for Running Quadruped Robots” in *Intelligent Service Robotics*, 2020

Luong Tin Phan, Yoon Haeng Lee, Young Hun Lee, Hyunyong Lee, Hansol Kang and Hyouk Ryeol Choi, “Study on Quadruped Bounding with a Passive Compliant Spine” in *2017 IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2017

Luong Tin Phan, Yoon Haeng Lee, Young Hun Lee, Hyunyong Lee, Hansol Kang and Hyouk Ryeol Choi, “Effects of Spinal Joint on Quadrupedal Bounding,” in *The 14th International Conference on Ubiquitous Robots and Ambient Intelligence*, 2017

Luong Tin Phan, Yoon Haeng Lee, Dong Youn Kim, Hyunyong Lee and Hyouk Ryeol Choi, “Stable Running with a Two-segment Compliant Leg” in *Intelligent Service Robotics*, vol. 10, pp. 173-184, 2017

Luong Tin Phan, Yoon Haeng Lee, Dong Youn Kim, Hyunyong Lee, and Hyouk Ryeol Choi, “Hybrid Quadruped Bounding with a Passive Compliant Spine and Asymmetric Segmented Body” in *2016 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 3387–3392, 2016

Luong Tin Phan, Yoon Haeng Lee, Dong Youn Kim, Hyunyong Lee, and Hyouk Ryeol Choi, “Quadruped Bounding with a Passive Compliant Spine,” in *The 12nd International Conference on Ubiquitous Robots and Ambient Intelligence*, pp. 415–416, 2015