PERSONAL INFORMATION

Thanh-Tung Ngo

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○ https://github.com/tungngovn

EDUCATION & TRAINING

10/2020 – 04/2022 (expected)

M. Sc. in Mechatronics Engineering
Hanoi University of Science and Technology (HUST), Hanoi, Vietnam
GPA: **3.74**/4.0

09/2015 – 08/2020

Degree of Engineer in Mechatronics Engineering
(Talented Program – top **<2% university**)
Hanoi University of Science and Technology
GPA: **3.25**/4.0

PUBLICATIONS

[1] H. X. Nguyen, **T. T. Ngo**, and A. D. Nguyen, "Development of real-time traffic-object and traffic-sign detection models applied for autonomous intelligent vehicles," *J. Sci. Technol. Smart Syst. Devices*, vol. 32, pp. 17-24, Jan. 2022, doi: 10.51316/jst.155.ssad.2022.32.1.3.

[2] H. X. Nguyen, **T. T. Ngo**, and H. V. Nguyen, "Development of an autonomous intelligent mobile robot based on AI and SLAM technology," in *Proc. Int. Conf. Intell. Syst. Netw. 2021*, pp. 319-326, doi: 10.1007/978-981-16-2094-2_40.

[2] H. X. Nguyen, H. V. Nguyen, **T. T. Ngo,** and A. D. Nguyen, "Improvement of Control Algorithm for mobile robot using multi-layer sensor fusion," *Vietnam J. Sci. Technol.*, vol. 59, no. 1, pp. 110-119, Feb. 2021, doi: 10.15625/2525-2518/59/0/15301.

[3] H. X. Nguyen, H. V. Nguyen, and **T. T. Ngo**, "A new landmark detection approach for SLAM algorithm applied in mobile robot," *J. Sci. Technol. Tech. Univ.*, vol. 146, pp. 31-36, Nov. 2020, doi: 10.51316/30.7.6.

RESEARCH EXPERIENCE

05/2018 – present

Autonomous Intelligent Robotics Lab, HUST
PI: Dr. Xuan-Ha Nguyen
Research Assistant
Project: Long-term SLAM system based on Deep Learning and GraphSLAM
Collaborator: **Autonomous Intelligent Systems, University of Freiburg, Germany**
- Researched probabilistic SLAM algorithms: GMapping, EKFSLAM, and GraphSLAM;
- Proposed a new long-term SLAM system using GraphSLAM and Deep learning models;
- Built a landmark extraction using object detection and instance segmentation models (YOLOv4, YOLACT++) with Cityscapes dataset;
- Built a landmark localization based on depth estimation models (AANet+, LEAStereo) with ApolloScape dataset.

Project: R&D of SLAM algorithms for autonomous intelligent robots in logistics and services
- Designed software and hardware systems of an intelligent service mobile robot (AIR-HUST);
- Proposed an augmented SLAM method using multi-layer sensor fusion;
- Evaluated the suggested SLAM method on the mobile robot.

05/2018 – 07/2020

CMC Institute of Science and Technology, CMC Corporation, Hanoi, Vietnam
PI: Dr. Xuan-Ha Nguyen
R&D Intern
Project: CMC Intelligent Robot
- Developed a reception robot (C-Bot) based on TurtleBot2;
- Researched autonomous navigation algorithms: Gmapping, AMCL, and DWA;
- Programmed robot applications: movement behaviors, GUI, and autodocking;

10/2017 – 04/2018	**Vietnam Research Institute of Electronics, Informatics and Automation, Ministry of Industry and Trade, Hanoi, Vietnam** PI: Dr. Chan-Hung Nguyen **Student Researcher** **Project**: Research, design, and fabricate a humanoid robot applying computer vision technologies ▪ Developed 3D map builder of a humanoid robot using Kinect v2 and RTAB-Map.

HONORS AND AWARDS

2021	**Vingroup Scholarship nominee** (top *20/372* Vietnamese worldwide, full funding graduate studies) Vingroup Scholarship Program for Overseas Studies
2020	**Domestic Master Scholarship** (top *26* at HUST, full tuition fee and monthly stipend) Vingroup Innovation Foundation, Vingroup Big Data Institute
2020	**1st prize** in **Student Research Competition** Hanoi University of Science and Technology
2017	**4th prize** in the **2017 Blitz Research Competition** Vietnam Summer School of Science, Rencontres du Vietnam
2016 – 2019	**Student with five good merits** (morality, studying, physical training, volunteer, integration) Vietnam National Union of Students of Hanoi University of Science and Technology
2015 – 2017	**FYT Scholarship for Outstanding Students** (top *25 nationwide*) FPT Center for Young Talents, FPT Corporation
2015	**Highest entrance score (Math and Physics)** of the Talented Program in Mechatronics Hanoi University of Science and Technology

EXTRACURRICULAR ACTIVITIES

07/2019	**Representative of Vietnam – NUS Enterprise Summer Program in Entrepreneurship**, *National University of Singapore, Singapore* ▪ Took part in an intensive two-week introduction to the core concepts of entrepreneurship and the startup ecosystem of Southeast Asia, along with 180 students from 22 countries; ▪ Worked in a 6-member team to propose startup idea: "Online platform for startup mentoring".
09/2018; 03/2019	**Representative of HUST – TFI Specialists' Community Action and Leadership Exchange (TFI SCALE)**, *Temasek Polytechnic, Singapore & HUST, Vietnam* ▪ Participated in a cross-cultural and leadership training program for 3 weeks in Singapore and 2 weeks in Vietnam; ▪ Proposed IT idea: "A mobile app to support intellectually disabled people".
06/2017 – 02/2019	**President – HUST Lean Six Sigma**, HUST, Vietnam ▪ Organized training program for HUST students on Lean tools by lecturers and factories visit.
12/2015 – 12/2017	**Member of Management Board – FPT Center for Young Talents**, *FPT Corporation, Vietnam* ▪ Organized academic seminars and networking activities for elite undergraduates in Hanoi.
09/2015 – 08/2017	**President – GSTT Group Hanoi**, *Hanoi, Vietnam* ▪ Organized optional-fee Math and Physics preparation courses for candidates of the Talented Program at HUST; ▪ Support high school students in study and academic orientation.

SKILLS

Language	TOEFL 92 (R 28, L 19, S 21, W 24)
Programming languages	Python, C/C++, Matlab, QML
Robotics	ROS | 2D LiDAR, Embedded computer (Raspberry Pi) deployment
Frameworks	Pytorch, Scikit-Learn | Git | Latex