An Thai **Le**

Robotics research · Research Assistant

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Research Interest

I am a research assistant at the Autonomous Laboratory, Frankfurt University of Applied Science. My researches focus on mobile robotics including state estimation, localization and mapping, path planning and grasping. At the present, I am working on applying Reinforcement Learning in robotics control for stability and generalization in variety of task descriptions.

Education

Frankfurt University of Applied Science

Frankfurt am Main, Germany

B. Eng. in Electrical Engineering and Information Technology - German GPA: **1.5** - US GPA: 3.7/4.0

2015 - 2019

Le Hong Phong High School for the gifted

Ho Chi Minh City, Vietnam

majoring in Applied Physics - GPA: **9.2/10**

2012 - 2015

Open-source Projects

Flexible perception pipeline manipulation for RoboSherlock

Institute of Artificial Intelligence, University of Bremen, Germany

Google Summer of Code 2018

May 2018 - August 2018

- Implement paralleled pipelines scheduler API.
- Improve performance of Robosherlock pipelines by paralleling pipeline processes.
- Implement robotics module dependencies query interface.
- Project: [link]. Docs: [link], Certification: [link].

Multi-modal Cluttered Scene Analysis in Knowledge Intensive Scenarios

Institute of Artificial Intelligence, University of Bremen, Germany

Google Summer of Code 2017

June 2017 - September 2018

- Implement symmetry-based object segmentation algorithm in complex and cluttered scene.
- Implement object segment API for grasping system.
- Project: [link]. Demo: [link] Documentation: [link]. Certification: [link].

Experience

Frankfurt University of Applied Science

Frankfurt am Main, Germany

Research Assistant

May 2019 - Present

- Work with Prof. Peter Nauth to develop task-oriented robotics system that combines navigation and object grasping system.
- Research on applying Reinforcement Learning in robotics control to enhance control stability generalization on variety of task descriptions.
- Guide new student to operate robots in the Autonomous lab.

EyeQ Ltd.

Ho Chi Minh city, Vietnam

Robotics Engineer Intern

March 2018 to August 2018

- Collaborate with dev team to develop practical technical solution for customers, using various Machine Learning methods.
- Develop autonomous navigation system for mobile robot that is used in many industrial applications.

Intel Corporation

Ho Chi Minh city, Vietnam

Product Development Engineer Intern

Jan 2017 to May 2017

- Design and develop automated data systems to process and analyze high volume unit test data in Intel Assembly & Test Manufacturing.
- Weekly validate and report the quality of Intel Thunderbolt Product.
- Letter of Evaluation can be viewed in this link.

Skills

Linguistic

- **English** IELTS: 7.0/9.0 (Certified in 2019)
- **German**: Elementary proficiency
- **Vietnamese**: First language

Computer Science

- **Language**: Python 2 & 3, C++11 & 14, Java, UNIX
- **Libraries and Frameworks**:
  - **Data Sciences**: numpy, sklearn, scipy, pandas, tensorflow.
  - **Robotics**: ROS, RoboComp, Gazebo, openAI Gym.
  - **Others**: LaTeX, Matlab

Honors & Awards

Scholarships

- **DAAD Scholarship**, German Academic Exchange Service for study stay in Germany.
- **AmCham Scholarship**, Best of the Bests Award 2017: Top application score, top interview score.
- **eSilicon Scholarship**, Sunflower Mission 2017 Engineering & Technology Scholarship for Excellence

Competitions

Hackdays Rhein-Main Best solution Winner *Frankfurt am Main, Germany*

Hackdays Rhein-Main *May 2019*

- Develop an app solution for dialysis patients to plan an optimal travelling round trip via cities, where dialysis treatments are possible.
- Work as Backend Developer to design optimized algorithms for trip planning and scheduling Competition website: https://www.hackdays-rheinmain.com

UNESCO Hackathon Vietnam Winner *Ho Chi Minh City, Vietnam*

FOSSASIA and UNESCO *October 2018*

- Develop the web application, Klima Kage to provide up-to-date climate and environment data for journalists
- Project: [link].

Publications

Conference papers

- ***An T. Le**, M. Q. Bui, T. D. Le and N. Peter*, "D* Lite with Reset: Improved Version of D* Lite for Complex Environment," 2017 First IEEE International Conference on Robotic Computing (IRC), Taichung, 2017, pp. 160-163. doi: 10.1109/IRC.2017.52

- *T. D. Le, **An T. Le** and D. T. Nguyen*, "Model-based Q-learning for humanoid robots," 2017 18th International Conference on Advanced Robotics (ICAR), Hong Kong, China, 2017, pp. 608-613. doi: 10.1109/ICAR.2017.8023674

- *Q. H. Nguyen, T. N. P. Tran, D. D. Huynh, **An T. Le** and T. D. Le*, "Real-Time Localization and Tracking System with Multiple-Angle Views for Human Robot Interaction," 2017 First IEEE International Conference on Robotic Computing (IRC), Taichung, 2017, pp. 316-319. doi: 10.1109/IRC.2017.53

Book chapters

- *Khiem N. Doan, **An T. Le**, Than. D. Le & Pether Nauth. (2015). "Swarm Robots' communication and cooperation in motion planning". In Dan Zang & Bin Wei(Eds.), Lecture Notes in Mechanical Engineering (Part I, Chapter 15) Mechatronics and Robotics Engineering for Advanced and Intelligent Manufacturing (pp 191-205), Springer International Publishing. DOI 10.1007/978-3-319-33581-0_15.*

- ***An T. Le** and Than D. Le* (September 26th 2018). Search-Based Planning and Replanning in Robotics and Autonomous Systems, Advanced Path Planning for Mobile Entities, Rastislav Róka, IntechOpen, DOI: 10.5772/intechopen.71663. Available here.

Workshops

- **Presented *An T. Le***, "Search-based path planning and re-planning for robotics" The first International Workshop on Automation and Robotics, Vietnamese-German University, Vietnam, 2017.