

# Tri Bien Minh

Portfolio: [triknight.github.io](https://triknight.github.io)  
Github: [github.com/triknight](https://github.com/triknight)

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Address: Binh Duong, VietNam

## EDUCATION

- Karlsruhe University of Applied Sciences** Germany  
• *M.Sc in Mechatronics System and Sensor Technology; German GPA: 1.6 (Good)* Oct 2014 - Mar 2017  
- Thesis: *Design, Modeling and Control an Octocopter (1.0 - Excellent grade)*  
- 100% Full tuition scholarship
- Lac Hong University** Vietnam  
• *B.Sc in Mechatronics Engineer; GPA: 7.97/10.0 (Top 5% students in class)* Oct 2009 - 2013

## EXPERIENCE

- Vietnamese German University** Vietnam  
• *Robotics Lab Engineer (Full-time)* Oct 2017 - Present
  - Research on **Robotics perception and Machine Learning** topic: Execute, and benchmark the SLAM algorithms for an autonomous robot, toward developing a novel 3D SLAM and Spatial Perception. Execute and develop ML model for object detection, and object classification, with various input data like rgb-image, depth image, point cloud.
  - Integrate and execute autonomous robot hardware for robotic systems**: including guiding the technical approach and managing the development of the autonomous system on available robots platform: UR10e, KuKa Youbot, Turtlebot3, NAO, DJI Drone, as well as developing new autonomous robots platform.
  - Lab tutorial for undergraduate students**: Embedded intelligent System (ROS, OpenCV), Robotics and Autonomous Systems (ROS, Pytorch), Microcontroller, Digital Signal Processing, Robotics Workshop (CAD and PCB Design)
- Nguyen Tat Thanh University** Vietnam  
• *Lecture of Mechatronic Department* Nov 2013 - Jun 2017
  - Prepared and delivered lectures to undergraduate students: on topics mechatronics and robotics.
  - Design some kind of robots and machines and educate kit : for education purposes, supporting mechanical design for new students.
  - Administration work: monitored undergraduate teaching, internship, and research work.
- Robert Bosch Engineering and Business Solutions** Vietnam  
• *Intern. Mechanical Engineer* Feb 2016 - Aug 2016
  - Designing the **charger docking and locking mechanism for the electric motorbike**: in the "Bosch Green Challenge project", and got awarded "Certification of Innovation Activities and Development" for this design.
- Pepperl and Fuchs Co., Ltd.** Vietnam  
• *Intern. Process Engineer* Oct 2015 - Dec 2015
  - Implementation PDCA process**: for ultrasonic welding sensors, and improvement of quality sensor in manufacturing process.

## PUBLICATIONS

- MiniRos: an autonomous UGV robot for education and research.** Tri. B. Minh\*, H. Thanh Luan, D. X. Phu, T. Quang Nhu and B. M. Duong, *2021 International Conference on System Science and Engineering (ICSSE)* pp. 170-175, DOI: 10.1109/ICSSE52999.2021.9538463.
- Development of a novel V-frame Octocopter: Design, Kinematic Analysis, and Simulation using PID controllers with Ziegler Nichols tuning method.** Tri B. Minh\*, Hien Vo, Hua Thanh Luan, *International Journal of Intelligent Unmanned Systems* (Under peer-review) Preprint.
- Adaptive Optimal Control for Upper Exoskeleton following Saturation Function.** Do Xuan Phu, Tri B. Minh, *2021 24th International Conference on Mechatronics Technology (ICMT)*, DOI: 10.1109/ICMT53429.2021.9687228.

## HONORS AND AWARDS

- Best Junior Researcher Award in Vietnamese German University - Academic year, 2020-2021
- 100% full tuition scholarship (Pepperl+Fuchs scholarship) - in Master course
- Global Entrepreneurship Training under the Global Entrepreneurship Education Program (GEEP) - 2017
- Youth exchange JENESYS 2.0 Scholarship (JICA 2014) - Japan - 2014
- Second prize in Nation Robocon ABU Techshow (product Personal assistant robot) - 2012

## SKILLS SUMMARY

- Languages:** Python, C++, MatLab
- Frameworks:** ROS, Pytorch, TensorFlow, OpenCV, Open3D, OpenAI-Gym
- Tools:** Software (Git, Docker), PCB Design(KiCad), 3D CAD Design(Solidworks)
- Platforms:** MacOS, Linux, Windows, Arduino, Nvidia-Jetson, Raspberry Pi
- Communication:** English: Professional, and Vietnamese: Native
- Soft Skills:** Leadership, Event Management, TeamWork, Writing, Time Management

## VOLUNTEER EXPERIENCE

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- **Founder at Robotlab facebook and website** Binh Duong, Vietnam  
*Conducted online and offline technical STEM training for students* Jan 2019 - Present
- **Member at Jenesys 2.0 (Japan-East Asia Network of Exchange for Students and Youths)** Japan  
*Students exchange programmes that are intended to create a bridge between Japan and country in Asia* Jan 2014
- **Team Leader at a Robocon ABU(Asia-Pacific Robot Contest) Team** LHU, VietNam  
*Technical lead, facilitating open communication, encouraging member growth to reach the team goals* 2011 - 2013

## CERTIFICATE

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- **TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning** Coursera  
*Credential ID: C6WDS PX7BKVH* Nov 2021
- **SIMATIC S7-1500 Programming 1 in The TIA Portal (TIA-PRO1))** Siemens  
*Programming PLC S7-1500 with TIA Portal* Oct 2020
- **Deep Reinforcement Learning NanoDegree** Udacity  
*Credential ID: 466QEDKQ* May 2020
- **Certification of Innovation Activities and Development** BOSCH Vietnam  
*Docking and Locking for Electric bike in BOSCH Station* 2016
- **Global Entrepreneurship Training** Handong Global University  
*Entrepreneurship Training* 2017
- **IELTS 6.0 Overall** IDP  
*English certification* 2015
- **JENESYS 2.0 Program** Japan  
*Japan-East Asia Network of Exchange for Students and Youths (JENESYS) Programme* 2014

## HAND-ON HARDWARE EXPERIMENTS

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- **Robot platform:** UR10e, Kuka Youbot, Turtlebot 3, NAO, DJI Drone ..
- **Sensor:** Velodyne, IMU-Xsens, Houkyo Lidar, Intel Realsense, SICK Lidar-Camera, Torque-Force Sensor..
- **Embedded Computer:** Nvidia Jetson family, Raspi-Pi, NUC, Arduino..
- **Actuator:** Various of Servo motor, BLDC Motor, Linear motor, Motor driver,...