Tri Bien Minh

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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 Reinforcement learning in robotic control**: Focus on Reinforcement learning (RL) for the robotics control, experimented with ROS, and various RL frameworks like OpenAI-Gym, and Isaac-Gym, toward to developing new RL algorithms and apply to the real UR10e robot in manufacturing applications.
  - **Research on Robotics perception and SLAM**: Execute, and benchmark the SLAM algorithms for an autonomous robot, toward developing a novel 3D SLAM. Execute and develop ML model for object detection, and object classification, with various input data like rgb-image and 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 Adward 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

- **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

- **TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning** — Coursera
  Credential ID: C6WDSPX7BKVH — *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

- **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,..