MINH-QUAN DAO

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EDUCATION

École Centrale de Nantes (ECN) — **Nantes, France**
PhD in Robotics — 2020 – 2023
- Thesis: Toward Solving Occlusion and Sparsity in Deep Learning-Based 3D Object Detection Through Collaborative Perception

Master of Control and Robotics — 2018 – 2020
GPA: **3.80/4.00** (**Ranked 1**)

Ho Chi Minh City University of Technology (HCMUT) — **Ho Chi Minh City, Vietnam**
Bachelor of Engineering in Mechatronics Engineering — 08/2012 – 12/2017
GPA: **7.82/10.00** (**Ranked 3**)

COMPETENCIES

- **Scientific:** object detection, multi-sensor fusions, multi-object tracking
- **Programming:** PyTorch, Python, C++

SELECTED WORK & TEACHING EXPERIENCE

Institut national de recherche en sciences et technologies du numérique (INRIA) — **Valbonne, France**
Postdoc (Full time) — 12/2023 - Present
- Developing a V2X cooperative perception method for autonomous vehicles with a focus on accurate detection of vulnerable road users
- Developing label-efficient methods for LiDAR-based object detection
- Collaborating with AVE Lab of KAIST (Korea) on building object detection methods based on 4D Radar
- Building a collaborative perception dataset in collaboration with the Australian Centre for Robotics and the ML Core Lab of Cornell University

Australian Centre for Robotics (ACFR) — **Sydney, Australia**
Visiting researcher (Full time) — 05/2023 - 08/2023
- Integrated RGB cameras and LiDARs to build a roadside unit that currently deployed at an intersection of Sydney
- Developed a collaborative perception method for 3D object detection that outperformed the state-of-the-art in terms of performance-bandwidth tradeoff

Département Automatique et Robotique, École Centrale de Nantes (ECN) — **Nantes, France**
Teaching Assistant (Part-time) — 10/2020 – 11/2023
- Developed lab materials (documents + codes in Python), instructed students during lab sessions, and graded their work in the following courses of the Master's degree in Advanced Robotics offered at ECN: Computer Vision, AI for Robotics, Advanced Visual Geometry, Autonomous Vehicles.
- Co-supervised the thesis entitled “Deep learning-based automatic UAV detection and tracking using embedded fisheye cameras” with Prof. Vincent Frémont and Dr. Julian Erskine

HONORS & AWARDS

- Admitted to study MS program in Advanced Robotics at École Centrale de Nantes (Fall 2018) with **Centrale Nantes Elite Scholarship**
- **AmCham Scholarship** granted by the American Chamber of Commerce in Vietnam (*2017*)
- **The Third Prize** in the National Mechanics Olympiad (2016)

PUBLICATIONS

Journals

[1] **Minh-Quan Dao**, Julie Stephany Berrio, Vincent Frémont, Mao Shan, Elwan Héry, Stewart Worrall, “Practical Collaborative Perception: A Framework for Asynchronous and Multi-Agent 3D Object Detection”, IEEE Transaction on Intelligent Transportation System (2024)

[2] **Minh-Quan Dao**, and Frémont, V., A Two-Stage Data Association Approach for 3D Multi-Object Tracking, Sensors, MDPI, 2021

Conferences

[3] **Minh-Quan Dao,** Holger Caesar, Julie Stephany Berrio, Mao Shan, Stewart Worrall, Vincent Frémont, and Ezio Malis. "Label-Efficient 3D Object Detection For Road-Side Units." IEEE Intelligent Vehicles Symposium (IV), South Korea, 2024**.**

[4] **Minh-Quan Dao**, Vincent Frémont, Elwan Héry, “Aligning Bird-eye View representation of Point Cloud Sequences using Scene Flow”, IEEE Intelligent Vehicles Symposium (IV), US, 2023

[5] **Minh-Quan Dao**, Elwan Héry, Vincent Frémont, “Attention-based Proposals Refinement for 3D Object Detection”, IEEE Intelligent Vehicles Symposium (IV), Germany, 2022

[6] Haixin Sun, **Minh-Quan Dao**, Vincent Frémont, “3D-FlowNet: Event-based optical flow estimation with 3D representation”, IEEE Intelligent Vehicles Symposium (IV), Germany, 2022

[7] **Minh-Quan Dao**, D. Lanza, V. Frémont, " End-to-End Deep Neural Network Design for Short-term Path Planning," 11th IROS Workshop on Planning, Perception, Navigation for Intelligent Vehicles (PPNIV), 2019

[8] **Quan Minh Dao**, Vu Thai Anh Tran, Cong Tran Thanh Vu, Quan Tuong Vo, "A study on cascade design for CPG-based controller of a planar snake robot," 2017 IEEE Conference on Systems, Process, and Control (ICSPC), Malaysia, 2017

[9] **Quan Minh Dao**, Quan Tuong Vo, "*Design of a CPG-based close-loop direction control system for lateral undulation gait of snake-like robots*," IEEE International Conference on Advanced Technology for Communications (ATC), Vietnam, 2017

Under review

[10] Katie Z Luo*****, **Minh-Quan Dao***, Zhenzhen Liu*, Mark Campbell, Wei-Lun Chao, Kilian Q Weinberger, Ezio Malis, FREMONT Vincent, Bharath Hariharan, Mao Shan, Stewart Worrall, Julie Stephany Berrio Perez, “Mixed Signals: A Diverse Point Cloud Dataset for Heterogeneous LiDAR V2X Collaboration”. Submitted to CVPR 2025

[11] Seung-Hyun Song, Dong-Hee Paek, **Minh-Quan Dao**, Ezio Malis, Seung-Hyun Kong, “A Novel Multi-Teacher Knowledge Distillation for Real-Time Object Detection using 4D Radar”. Submitted to IEEE RA-L in December 2024

[12] **Minh-Quan Dao**, Ezio Malis, “A Novel Framework For Robust Collaborative Perception Against Adversarial Agents”. Submitted to IEEE Intelligent Vehicles Symposium (IV) 2025