Quang Nhat Nguyen

Doctor of Philosophy Student in Engineering & IT
The University of Melbourne

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Languages: Vietnamese (native), English (proficient),
Japanese (fluent – JLPT N2)

Proposed Research Project

Enhancing perception in low-illumination and adverse weather conditions for roadside stationary multimodal & multispectral sensing system to enable continuous provision of traffic flow statistics.

Education

2/2024 – present
Doctor of Philosophy in Engineering and Information Technology
The University of Melbourne, Australia

10/2021 – 9/2023
Master of Engineering in Electrical Engineering
Nagoya University, Japan, First-class Honours

10/2017 – 9/2021
Bachelor of Engineering in Electrical Engineering, Electronics, and Information Engineering
Nagoya University, Japan, First-class Honours, Valedictorian

8/2014 – 5/2017
High School Diploma with specialisation in Mathematics
Le Quy Don High School for Gifted Students, Da Nang City, Vietnam

Affiliated Research Group

2/2024 – present
Australian Integrated Multimodal EcoSystem (AIMES) Laboratory
Faculty of Engineering and Information Technology, The University of Melbourne

4/2020 – 9/2023
Takeda Laboratory
Driving Behaviour and Perception Research Group
Department of Intelligent Systems, Graduate School of Informatics, Nagoya University

Research experiences:

Intelligent Perception of Autonomous Vehicles *(Semantic segmentation, Object detection, CV deep learning)*,
Sensors Calibration & Fusion *(Optimisation, 3D mapping, 3D digital-twin reconstruction)*,
Physics-based Simulation for Autonomous Driving *(LiDAR intensity simulation, Hyperspectral digital twin)*

Professional Experience

6/2023 – 2/2024, part-time

Research and Development Engineer at the Sensing and Perception Team at Map IV, Inc.

Experiences: Perceptive Intelligence with AI & ML, Sensors Calibration & Fusion, Optimisation with C++ and Python, Containerised GUI app development, Git & other team collaboration tools.

4/2023 – 9/2023, 11/2021 – 3/2022, part-time

Research Assistant at JARI (Japan Automobile Research Institute – Japan Government)

Experiences: Autonomous Driving Simulators (CARLA, SVL, Autoware), LiDAR intensity simulation implementation with Unreal Engine C++ API.

4/2022 – 3/2023, part-time

Research Assistant at NEDO (Japan Government)

Experiences: Vehicle Electronics and Mechanics (from designing and assembling the sensors array for our instrumented vehicle), Autoware (from setting up the onboard computer on our instrumented vehicle).

9/2022, internship

Research Intern at RIKEN Centre for Computational Science, Data Assimilation Research Group

Experiences: Data Assimilation, Kalman Filter Techniques, High-Performance & Parallel Programming.

Publications

Physics-based LiDAR waveform simulation method for realism improvement of driving simulators

Quang Nhat Nguyen, Alexander Carballo, and Kazuya Takeda
International Symposium on Future Active Safety Technology toward zero-traffic-accident (FAST-zero), September 2021

On radial Schrödinger operators with a Coulomb potential: general boundary conditions

Jan Dereziński, Jérémy Faupin, Quang Nhat Nguyen, and Serge Richard
Advances in Operator Theory 5, pp. 1132 – 1192, July 2020
DOI: 10.1007/s43036-020-00082-6

Honours & Awards

Valedictorian of Nagoya University School of Engineering
9/2021, honoured by Nagoya University.

Outstanding Presentation Award
7/2022, awarded by Nagoya University for master's research presentation.

Scholarships

Melbourne Graduate Research Scholarship
2/2024 – present, total award: AUD $370,000, awarded by the University of Melbourne.

Japan Government's MEXT Scholarship
10/2017 – 9/2023, total award: JPY ¥12.6 million, awarded by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT).

Certificates

Quantum Computing
IBM Quantum Challenge Certificate of Achievement
Issued by **IBM**, credential ID: https://www.credly.com/badges/918c0976-1f83-4f02-9b88-a5f5afd02e87/public_url