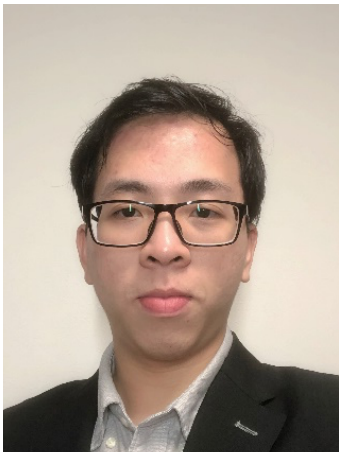
Quang Nhat Nguyen

Department of Electrical Engineering
Graduate School of Engineering, Nagoya University

Address: Room 828, IB North Building, Nagoya University
Furo-cho 1, Nagoya 464-8603, Japan

Email: nguyen@g.sp.m.is.nagoya-u.ac.jp
Phone: +81-70-4803-4699

Languages: Vietnamese (native), English (proficient – IELTS 8.0),
Japanese (fluent – JLPT N2)



Affiliated Research Group

April 2020 – September 2023

Takeda Laboratory

Driving Behaviour and Automotive 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

June 2023 – Present

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

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

April 2022 – March 2023

Research Assistant at NEDO (New Energy and Industrial Technology Development Organisation)

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).

November 2021 – March 2022, April 2023 – September 2023

Research Assistant at JARI (Japan Automobile Research Institute)

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

September 2022

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

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

Education

October 2021 – September 2023

M.E. in Electrical Engineering

Nagoya University, Japan

October 2017 – September 2021

B.E. in Electrical Engineering, Electronics, and Information Engineering

Nagoya University, Japan, GPA: 4.07, Valedictorian

August 2014 – May 2017

High School Diploma with specialisation in Mathematics

Le Quy Don High School for Gifted Students, Da Nang City, Vietnam

Publications

Calibration toolbox and thermally-controlled calibration target for joint extrinsic and intrinsic calibration of LiDAR sensors, thermal cameras, and RGB cameras

Quang Nhat Nguyen, Khanh Bao Tran, Alexander Carballo, Jacob Lambert, and Kazuya Takeda
Sensors, Special Issue "Multispectral, Polarized and Unconventional Vision in Robotics", 2023 (to be submitted)

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

Skills

Programming
Deep learning implementation in Python TensorFlow
Graphics (Open3D, OpenCV, GUI) and **Graphics engine** (Unreal Engine) programming
Cloud-based (AWS) and **containerised application** (Docker) development

Autonomous driving systems development, and others
Robotics perception programming (ROS, C++, MATLAB, sensors calibration, 3D digital twin)
Autonomous driving simulators (CARLA, SVL, Autoware)

Honours / Awards

Valedictorian of Nagoya University School of Engineering

9. 2021, honoured by Nagoya University.

Outstanding Presentation Award

7. 2022, awarded by Nagoya University.

Japan Government's Graduate Scholarship

10.2021 – 9.2023, awarded by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)

Japan Government's Undergraduate Scholarship

10.2017 – 9.2021, awarded by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)

Licenses / 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

Teaching Experience

10/2018 – 2/2021
Tutor for the following courses at Nagoya University:

Mathematics for Machine Learning (Autumn 2020)
Graph Theory (Spring 2020)
Calculus I (Autumn 2019)
Differential Geometry (Autumn 2018)