

Quang Nhat Nguyen

Doctor of Philosophy Student in Engineering & Information Technology
The University of Melbourne

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

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 and Information Technology

Nagoya University, Japan, First-class Honours (4.0/4)

10/2017 – 9/2021

Bachelor of Engineering in Electrical Engineering, Electronics, and Information Engineering

Nagoya University, Japan, First-class Honours (3.94/4), Valedictorian

8/2014 – 5/2017

High School Diploma with specialisation in Mathematics

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

Research Experience

2/2024 – present

Australian Integrated Multimodal EcoSystem (AIMES) Laboratory

AI & Deep Learning Research Group

Faculty of Engineering and Information Technology, The University of Melbourne

Experiences:

Sequence Modelling & Timeseries Prediction (*State Space Models, Transformers, LLMs, GNNs*),
Hyper-large-scale AI models (*Distributed training on HPC Linux GPU clusters, Distillation, Transfer Learning*),
State-Space-centred modelling of multimodal data (*NLP, 1D time series, 2D image, 3D point cloud*)

4/2020 – 9/2023

Takeda Laboratory

Driving Behaviour and Perceptive Intelligence Research Group

Department of Intelligent Systems, Graduate School of Informatics, Nagoya University

Experiences:

Advanced Mathematical Analysis & Data Assimilation (*Probability theories, Ensemble Kalman methods*),
Intelligent Perception of Autonomous Vehicles (*Semantic segmentation, Object detection, CV deep learning*),
Perception Sensors AI & Signal Processing (*Optimisation, 3D fusion & mapping, 3D hyperspectral digital-twin*)

9/2022

RIKEN Centre for Computational Science (R-CCS)

Data Assimilation Research Group

Experiences:

Advanced Mathematical Analysis & Data Assimilation (*Probability theories, Ensemble Kalman methods*),
High-Performance Computing (*efficient programming, parallel computation on Fugaku supercomputer*)

Professional Experience

5/2024 – present, part-time

The University of Melbourne, AIMES Lab – Research & Development Software Engineer

Experiences: AI (Deep Learning, Computer Vision), DevOps (AWS, Google Cloud).

6/2023 – 2/2024, part-time

Map IV, Inc., Sensing and Perception Team – Research & Development Software Engineer

Experiences: Perception Intelligence, 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

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

Experiences: Autonomous driving simulators, Unreal Engine C++ API.

4/2022 – 3/2023, part-time

NEDO (New Energy & Industrial Technology Dev. Org., Japan Government) – Research Assistant

Experiences: 3D design, CAD structural analysis & assembly of sensors vehicle, Autoware for sensors control.

9/2022, internship

RIKEN Centre for Computational Science (Japan Government) – Research Intern

Experiences: Data assimilation, Kalman filter theories, High-performance & parallel programming.

10/2018 – 3/2021, part-time

Nagoya University – Tutor

Courses: Mathematics for Machine Learning, Graph Theory, Calculus I, Differential Geometry.

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](https://doi.org/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.

IBM Quantum Computing Challenge Completion

Awarded by IBM, credential ID: https://www.credly.com/badges/918c0976-1f83-4f02-9b88-a5f5afd02e87/public_url

Second Prize in Vietnam National Computer Science Olympiad

8/2012, awarded for the Creative Software Development sub-competition

First Prize in Da Nang Mathematics Olympiad for High School Students

3/2017, score: 10.0/10

Scholarships

Melbourne Graduate Research Scholarship

2/2024 – present, total award (projected): AUD \$370,000, awarded by the University of Melbourne.

Japan Government's MEXT Scholarships

10/2017 – 9/2021 & 10/2021 – 9/2023, total award: JPY ¥12.6 million, awarded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) – Government of Japan.