Nam Phong DUONG

Kyoto, Japan

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BACKGROUND

Third-year doctoral candidate at Kyoto Institute of Technology. My research focuses on medical image processing through the integration of machine learning techniques to enhance diagnosis and treatment optimization. With diligence and consistency, I am determined to make progress every day regardless how small it is. I am seeking opportunities in, but not limited to, AI/ML, data science, software engineering, and technology and innovation, with expertise in both technical development and human-centric design. I am eager to apply my skills across diverse domains.

EDUCATION

Kyoto Institute of Technology 04/2023 - 04/2026

- Doctor of Engineering in Engineering Design
- Image Processing Laboratory
- Research area: Medical Image Processing

Lancaster University 10/2018 - 07/2022

- Master of Engineering in Mechatronic Engineering
- Degree Classification: First Class Honours

Kyoto Startup Summer School 08/2019 - 09/2019

- Non-Degree Entrepreneurship Program
- Hosted by KYOTO Design Lab, Kyoto Institute of Technology

TECHNICAL SKILL

Programming Languages

- Python: Advance
- C/C++: Intermediate

Technical

- Data Analysis & Visualization: NumPy, Pandas, SciPy, Matplotlib, Seaborn
- Machine Learning: Scikit-Learn
- Deep Learning: PyTorch, TensorFlow
- Image Processing: OpenCV, Pillow
- Version Control: Git
- Containerization & Deployment: Docker
- Operating Systems: Window, Linux

EXPERIENCE

Kyoto Institute of Technology (Japan) - Graduate Researcher 04/2023 - Now

- Explore ML-based evaluation methods for computer-aided diagnosis of body part reconstruction outcomes.
- Process 3D mesh data and developing algorithms for ROI extraction.
- Statistical analysis, data visualization and feature engineering, including evaluation of extracted features and inter-rater reliability assessments.
- Investigate on transforming complex mesh data into ML-compatible formats.
- Collaborate with medical professionals to validate and develop new strategies to improve annotation quality for similar psychophysical tasks.

Independent Learning & Implementation - Developer 01/2023 - Now

- Conduct study on various AI topics under senior engineer supervision.
- Work with images, text, and language data for hands-on learning.
- Develop and deploy personal projects to reinforce skills.

ME310/SUGAR (Japan, Europe) - Design Thinking Consultant 10/2023 - 06/2024

- A design thinking program at the Kyoto Institute of Technology, in collaboration with students from Hasso Plattner Institute, dedicated to developing innovative products and services based on a challenge provided by Takeda Pharmaceutical [1] [2].
- Apply design thinking methodology to explore and discover unmet user needs, conduct rapid prototyping and testing, and deliver a detailed concept.
- Lead the development of the final solution, which is an LLM-based real-time meeting assistant tailored to bridge the cultural gap during global online collaboration.

MEng Group Project (United Kingdom) - Mechatronic Engineer 10/2021 - 06/2022

- A multi-discipline group project to design, build and test an optical concentrator characterisation system to characterise solar cell performance.
- Oversee engineering principles and consult in all sections of the project to evaluate, optimise, and finalise all designs in preparation for manufacturing.
- Design and construct a shield to contain the system to prevent eye contact as part of health and safety requirements.
- Develop software for on-site verification of characterisation results, with immediate access to values and graphs.

AWARD

Fellowship Scholarship Recipient 04/2023 - 04/2026

- Issued by: Kyoto Institute of Technology
- Scholarship program for exceptional doctoral students.

The Institution Best Student 07/2022

- Issued by: Lancaster University and Institution of Mechanical Engineers (IMechE)
- Awarded for highest academic performance in the 2022 graduating cohort.

PUBLICATION

Peer-Reviewed Journal Articles

1. My N. Nguyen, Kotori Harada, Takahiro Yoshimoto, **Nam Phong Duong**, Yoshihiro Sowa, Koji Sakai & Masayuki Fukuzawa, "Integrated Dataset-Preparation System for ML-Based Medical Image Diagnosis with High Clinical Applicability in Various Modalities and Diagnoses," SN Computer Science, Vol. 5, No. 676, 2024. (DOI:10.1007/s42979-024-03025-7)

Peer-Reviewed International Conference Papers

1. Kotori Harada, Takahiro Yoshimoto, **Nam Phong Duong**, My N. Nguyen, Yoshihiro Sowa & Masayuki Fukuzawa, "A New Integrated Medical-Image Processing System with High Clinical Applicability for Effective Dataset Preparation in ML-Based Diagnosis" in Intelligent Systems and Data Science (ISDS 2023), Thai-Nghe, N., Do, T.N., and Haddawy, P., Eds., Communications in Computer and Information Science, Vol. 1950, Springer, Singapore, 2024. (DOI:10.1007/978-981-99-7666-9_4)

Conference Presentations

1. Takahiro Yoshimoto, **Nam Phong Duong**, Yoshihiro Sowa & Masayuki Fukuzawa, "Construction of a 2D and 3D Image Feature Dataset for Aesthetic Evaluation After Breast Reconstruction Surgery" 200th Commemoration Conference of Medical Imaging and Information Science, 2024.

LANGUAGE

English

- Full Professional Proficiency
- IELTS Overall Band Score 6.0 (04/2017)

Japanese

- Limited Working Proficiency
- Aiming for JLPT N3 (07/2025) and JLPT N2 (12/2025)