Ngoc Hung Nguyen

Date of birth: 18/05/1995 | **Nationality:** Vietnamese | **Phone number:**

(+84) 0982733242 (Mobile) | **Email address:** nnhungbk@gmail.com |

Address: Lo Noi Village, Hop Duc Commune, Tan Yen District, Bac Giang Province, Vietnam, 26808, Bac Giang, Vietnam (Home)

WORK EXPERIENCE

07/01/2024 – CURRENT Hanoi

SENIOR AI ENGINEER FPT SOFTWARE

Role: AI technical solution:

1. Quantization methods applied into classification as detection model: Reset, SSD-Resnet, DERT.
2. Create quantized pipelines that include QAT, PTQ, and TVM_CPU
3. Create test and analysis.
4. Develop paper for AI compiler (1 month 1-2/2024)

Tools and languages:

1. Python, visual studio code.
2. Agile software development.

Achievements:

1. Understanding the TVM workflow and how a model can be compiled.
2. Understanding the compressing model and how to apply it to a real project.
3. Working under a high-pressure environment.

01/03/2024 – CURRENT Hanoi, Vietnam

UNIVERSITY RESEARCH ASSISTANT VIN UNIVERSITY (MOONLIGHTING)

Role: Research Assistant
Advisor: Prof. Nguyen Van Dinh
Topic: Joint Autonomous Control and Tasks Handling in Intelligent Transportation Systems
Achievements:

1. A accepted paper to the ATC conference as co-author.
2. A revising stage paper: Oranits: Autonomous Control and Task Allocation in ITS-Enabled Open RAN using Metaheuristic and Deep Reinforcement Learning

01/09/2021 – 01/01/2024 Ansan, South Korea

HIGHER EDUCATION RESEARCH ASSISTANT HANYANG UNIVERSITY

Role: Research Assistant
Advisor: Prof. Sang-Woon Jeon
Topic: Wireless Communication and Mobile Edge Computing

- Cloud/edge/fog server optimization problems in the future network (5/6G, IOT, IIOT, IOE ...)
- Deep learning/reinforcement learning.
- Optimization problem solution.
- Skill in problem formulation.
- ***The main research topic is greedy algorithms.***

Achievements:

1. Research skills:
   - Find problems.
   - Problem formulation.
   - Find solutions.
   - Quickly study something new.
   - Writing research papers or reports for high-ranking journals.
2. Deep reinforcement learning algorithms.
   - I have a deep understanding of MDP (Markovian Decision Process) and deep reinforcement learning.
3. Publication and patent:
   - A submitted patent: **TASK SCHEDULING METHOD AND SERVER FOR TASK SCHEDULING.** Which is under-reviewing from 20/03/2022

15/10/2018 – 27/07/2021 Hanoi, Vietnam

EMBEDDED SYSTEMS SOFTWARE DEVELOPER LG ELECTRONICS

Role: Middleware software engineer
Works:

1. Apply Resful interface in the head unit of cars:
    - Wi-fi middleware development (Wi-fi core framework)
    - SPI middleware development (SPI -fi core framework)
    - Unit test (google test).
    - Develop a tool to generate code for unit-test (C/C++ qt creator on windows os)
2. Sharpness and SFR Researcher:
    - Researching the way to get the grade of Sharpness by different areas to make test software for the camera.
    - Autofocus, Low contrast brightness.
    - Tools developer as R&D requests.

Tools:

1. C++ Builder (Cmake, make).
2. Car Head Units.

Achievements:
I had learned a lot of skills:

1. Programming: Design patterns in C++/Python and a deep understanding of OOP language.
2. The procedure of Software Development:
    - Waterfall, Agile
3. Algorithms:
    - Dynamic programming, Graph, Tree, Greedy.
4. Working in team skills: Collaboration, Teaching.

01/09/2017 – 30/06/2018 Hanoi, Vietnam
UNIVERSITY ASSISTANT HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Role: Research Assistant
Advisor: Prof. Bui Minh Dinh (School of Electrical and Electronics Engineering) and Prof. Nguyen D. B. Thanh (School of Chemical Engineering)
Topic:

1. The numerical methods
    - Researching the modeling and building method of the problems in Engineering.
    - Researching about Range Kutta method to resolve the multi-differential equations
    - Researching numerical methods.
2. Design motor.
    - Support design of electronic circuits.
    - Study C++ and embedded systems.

Achievements:

1. Deep understanding of the concepts of thread, and process in computer and programming.
2. Understand how to apply numerical in real problems in engineering.
3. C++ and compiler process.
4. The merit from the president of Hanoi University of Science and Technology.

EDUCATION AND TRAINING

01/09/2021 – 16/02/2024 Seoul, South Korea
MS.C IN ELECTRICAL AND ELECTRONICS ENGINEERING Hanyang University

Lab: Information Science and Transmission Laboratory
Advisor: Prof. Sang-Woon Jeon
GPA: 89.4
Courses: Algorithm and Applications, AI in Communication Systems, Image Processing, Modeling and Measurement for Ultra High Frequency Channels, and others (Total 60 ECTS).
Thesis abstract:
Considering a mobile edge computing system with randomly arriving tasks; Each of them is given a hard deadline constraint in a non-preemptive system. While previous works have proposed various solutions to maximize service ratios, they often overlook the delay in message exchange between users and servers to acquire information. In this context, a hybrid offloading policy is proposed, combining optimal scheduling techniques on a single server with a greedy algorithm. The policy aims to tackle these issues and achieve a high service ratio in the considered scenarios by accounting for the delay in message exchange between users and servers. Through performance evaluation, the

proposed hybrid method is shown to be efficient compared to previous works, which may have significant disadvantages such as high computational complexity or lengthy training times.

Website https://www.hanyang.ac.kr/web/eng/home | **Field of study** Wireless communication and edge/cloud computing |

Final grade 89.4/100 | **Level in EQF** EQF level 7 | **National classification** 7 |

Thesis Task offloading under Hard Deadline in Mobile Edge Computing Systems

26/08/2013 – 10/08/2018 Hanoi, Vietnam

BS.C IN ENGINEERING Hanoi University of Science and Technology

Advisor: Prof. Nguyen Dang Binh Thanh

Website https://hust.edu.vn/ | **Final grade** 71/100 | **Level in EQF** EQF level 6 |

Thesis Applied Numberical Methods in Chemical Engineering

LANGUAGE SKILLS

Mother tongue(s): **VIETNAMESE**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Programming Language c, c++, PYTHON | Google Apps; Drive, Docs, Sheets, Presentation, Calendar, Meet, Jamboard, Classroom | LaTeX (very good)

PUBLICATIONS

2025

Oranits: Autonomous Control and Task Allocation in ITS-Enabled Open RAN using Metaheuristic and Deep Reinforcement Learning

Under-reviewing

Ngoc Hung Nguyen, Nguyen Van Thieu, Senura H. Wanasekara, Van-Dinh Nguyen, Senior Member, IEEE, Quang-Trung Luu, Nguyen Cong Luong, and Anh Tuan Nguyen, IEEE Transaction on Intelligent Transportation Systems

2025

Multi-Hop Routing for IoT-Based Digital Twin: Novel Metaheuristic Approaches

Under-reviewing

Tran Cong Dao, Nguyen Cong Luong, Ngoc Hung Nguyen, Xingwang Li, Senior Member, Dusit Niyato, Fellow, IEEE and Dong In Kim, Fellow, IEEE, IEEE Internet of Things Journal

2024

Deadline–Aware Joint Task Scheduling and Offloading in Mobile Edge Computing Systems

Nguyen, N. H., Nguyen, V. D., Nguyen, A. T., Van Thieu, N., Nguyen, H. N., & Chatzinotas, S. (2024). Deadline-Aware Joint Task Scheduling and Offloading in Mobile Edge Computing Systems. *IEEE Internet of Things Journal*.

2024

Feature selection using metaheuristics made easy: Open source MAFESE library in Python

Nguyen Van Thieu, **Ngoc Hung Nguyen**, Ali Asghar Heidari, Feature selection using metaheuristics made easy: Open source MAFESE library in Python, *Future Generation Computer Systems*, Volume 160, 2024, Pages 340-358, ISSN 0167-739X,

2024

Integrated metaheuristic algorithms with extreme learning machine models for river streamflow prediction

Van Thieu, N., **Nguyen, N. H**., Sherif, M., El-Shafie, A., & Ahmed, A. N. (2024). Integrated metaheuristic algorithms with extreme learning machine models for river streamflow prediction. *Scientific Reports*, *14*(1), 13597.

2024

Lossy Compression of Multi-channel EEG and PPG Signals based on Golomb-Rice Coding with Parameter Estimation

Accepted

Senura Hansaja Wanasekara, Han Huy Dung, Ngoc Hung Nguyen and Van-Dinh Nguyen, ATC 2024

2023

Job Scheduling with Deadline Constraints

Nguyen, Ngoc-Hung, Kangyu Gao, and Sang-Woon Jeon. "Job Scheduling with Deadline Constraints." [illegible] (2023): 110-111.

2023

TASK SCHEDULING METHOD AND SERVER FOR TASK SCHEDULING

Patent register no: 10-2023-0035648
Register date: 20/03/2023
Status: under reviewing

HONOURS AND AWARDS

25/05/2018

The 3rd award at the Student Research Competition Academic year2017-2018 – Hanoi University of Science and Technology

RECOMMENDATIONS

Bui Minh Dinh, Ph.D Associate Professor

Professor Bui Minh Dinh was my advisor while I was earning my degree from Hanoi University of Science and Technology.

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Nguyen Van Dinh, Ph.D Assistant Professor

Professor Nguyen Van Dinh is my current advisor at Vin University.

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