



NGUYEN DUC HUY

Address: 62 Nguyen Chi Dieu, Son Tra District, Danang

Phone: Vietnam (+84) 984 875 261

Taiwan (+886) 905 101 134

Gender: Male

Birthday: 1994/06/23

Email: dhuy.nguyen94@gmail.com

LinkedIn: <https://www.linkedin.com/in/duc-huy-nguyen-242a69163/>

PROFESSIONAL SUMMARY

Being good at researching, designing operation system, having well-trained knowledge about **Digital Signal Processing, Machine Learning, Deep Learning, and Computer Vision**.

Being good at programming skills for more than **2 years** and **a year** with working on **Python** and **C++ programming language**, respectively.

Being cooperative and able to perform within a team-oriented atmosphere.

HIGHLIGHT ACADEMIC/INDUSTRY INTEREST

Master Research Working on designing Artificial Intelligent (Deep Neural Network Model) for photoplethysmography (PPG) signal occurred on a blood vessel of the artery which is beneficial for estimating Blood Flow Volume. The current Industrial PPG sensor available in the market (smart-watches) cannot estimate Blood Flow Volume based on Neural Network Model. Ministry of Science and Technology (Taiwan) supports the project to use Artificial Neural Network for the Blood Flow Volume Estimation and implement on Cloud Application Platform.

Bachelor Research Working on programming Automatic Vertical Car Parking based on Arduino and Programmable Logic Controller (PLC).

Designing a software interface to apply for Automatic Vertical Car Parking management.

WORK EXPERIENCE

2018-Now Research Assistant

➤ *Sensors IC Lab, National Chiao Tung University, Taiwan.*

Research area: Applying Machine Learning, Deep Learning, and Digital Signal Processing for Handheld Bio-Medical devices and Remote Server involving:

- Research and implement Machine Learning Algorithms, Deep Learning Algorithms, and Digital Pre-Signal Processing Algorithms on the commercial applications applied for Handheld Bio-Medical devices
- Implementing Digital Signal Processing Algorithm on Firmware based on ARM Embedded Integrated Development Environment STM32-NUCLEO platform with using C++ such as Language Programming
- Design and Implement Digital Signal Processing used for Quality Control Criteria

- Evaluating and processing the Biomedical Digital Signals and Biomedical Database
 - Design and implement the measuring user interface between Handheld Bio-Medical Devices and Laptops
 - Experimentation of device-to-device connection
- ***Other small-scale projects involving:***
- Working for small-scale projects related to Object Detection in the Applied Computer Vision using YOLO V3
 - Attending project using Duckietown Robot such as self-driving car based on Deep Learning Algorithm.
 - Working for small-scale projects related to the Digital Image Processing and Digital Image Filtering

2017-2018

Automation Engineer

Institute of Electronics, Information Technology and Automation (VielinaCR), Danang, Vietnam
Research aspect: Communication and Automation system.

- Study to design Supervisory Control and Data Acquisition (SCADA) architecture
- Design and program based on Programmable Logic Controller (PLC)

2016

Internship

Automation and Supervisory Control and Data Acquisition (SCADA) system

- Study and manage Automation System with Programmable Logic Controller (PLC) and Actuator System
- Research, manage and implement SCADA on the factory's operation

EDUCATION/LANGUAGES

2018-2020 Master Degree in Electrical Engineering and Computer Science, International Graduate Program

[*National Chiao Tung University \(Top 200 Computer Science world ranking, 2020\), Hsinchu, Taiwan.*](#)

- GPA: 91.34/100 – Ranks 1st place in a class of 22 students
- Thesis/ Graduate Project: 92/100
- Scholarship for Outstanding Student

2013-2017

Bachelor/Engineer Degree in Electrical and Electronic Engineering

[*Danang University of Science and Technology, Danang University*](#)

- Top 8 of outstanding undergraduate students, 2016
- GPA: 3.42/4.0
- Thesis/Graduate Project: 9.5/10
- Degree Classification: Excellent

Language

English: IELTS - 5.5/9.0; Chinese: Good Speaking

TECHNICAL STRENGTHS

Programming Languages Python, C/C++, Matlab Programming, Programmable Logic Controller Programming

IDE Visual Studio Code, Sublime Text, IDE developed by JetBrains for Python (Pycharm) and C/C++ (CLion)

Databases MySQL

Tools GitHub, Docker, Matlab

Frameworks

- Deep Learning Frameworks: PyTorch, Tensorflow, Keras, YOLO
- Machine Learning Frameworks: Scikit-Learn
- Digital Image Processing Frameworks: OpenCV
- Digital Signal Processing Frameworks: Numpy, Pandas

Operating Systems Linux (Ubuntu), Raspbian (Raspberry Pi OS), Windows

Markup Languages HTML, CSS, LaTeX, Markdown

HONOR AND AWARDS

2020 Taiwan National Innovation Award renewal and issue the Excelsior Award in recognition of continuing innovations and advancements in R&D to the project

2019 Elite Scholarship for Students Award, National Chiao Tung University, Taiwan (R.O.C)

2018-2019 Awardee of National Chiao Tung University Scholarship for Master Program, Taiwan (R.O.C)

2016 Awardee of Scientific Research for Undergraduate Student, Danang University of Science and Technology, Vietnam

VOLUNTEER AND LEADERSHIP EXPERIENCE

2019-2020 Leader on Biomedical Digital Signal Processing and Artificial Intelligence, National Chiao Tung University, Hsinchu, Taiwan (R.O.C)

2012-2017 Vice monitor of class 12D3, Danang University of Science and Technology, Danang, Vietnam

2015-2016 Member of Scientific Research for Undergraduate Student, Danang University of Science and Technology, Danang, Vietnam

PUBLICATION

2019 [Pei-Yu Chiang, Paul C.-P. Chao, Tse-Yi Tu, Yung-Hua Kao, Chih-Yu Yang, Der-Cherng Tarng, and Chin-Long Wey, Duc Huy Nguyen, “Quality Evaluation via PPG on the AVFs of Hemodialysis Patients Based on Both Blood Flow Volume and Degree of Stenosis”, 2019 IEEE SENSORS CONFERENCE, Montreal, Canada](#)

2020 **Duc Huy Nguyen**, Yu-Ting Chen, Tse-Yi Tu, Paul C.-P. Chao, Yu-Wei Fang, Bing Shi Lin "A New Blood Flow Volume Sensor with Embedded Estimation of SpO₂ to Maximize its Accuracy" 2020 Journal of Microsystem Technologies