NGUYEN DUC HUY

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PROFESSIONAL SUMMARY

Good research, system design, well-trained knowledge about Digital Signal Processing, Machine Learning, Deep Learning and Computer Vision.

Good programing skill with more than 2 years working with Python.

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

HIGHLIGHT ACADEMIC/INDUSTRY INTEREST

Master Research	Working on designing Artificial Intelligent (Neural Network Model) for photoplethysmography (PPG) signal occurred on blood vessel of 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 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
  - ➢ *Another 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 Electronic, 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 the 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 student, 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

Programing 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	Git, 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

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	