PERSONAL INFORMATION

Dat Ngo

📍 The Meadows Townhouses, Annan Road, Colchester, UK

✉ datt.ngo.hcmut@gmail.com

📞 +84 978 825 839

🐙 https://dattngo.github.io/Publications/

WORK EXPERIENCE

January 2019- 2021

Teaching and Research Assistant at Ho Chi Minh City University of Technology

- Participating in and supervise senior students to conduct projects of applying machine learning and deep learning models for sound scene classification in Electronics Department.

January 2017- 2019

Assembly Process and Equipment Engineering at Intel, Vietnam

- Install, qualify and put into operation of equipment and process for Wire-Bond Department.

- Monitor equipment and process indicators to reduce process variability.

- Define maintenance procedures, training manufacturing technicians and partner with Manufacturing to maintain the equipment with the highest standards.

- Lead process improvements team in regards to safety, quality and efficiency in Wire-bond department.

EDUCATION AND TRAINING

Jan 2022 – Present

PhD Fellow in The School of Computer Science and Electronic Engineering in University of Essex, UK

Research project: A multi-functional and low-cost embedded system for auscultation of respiratory and cardiovascular sounds.

- Propose the characteristics of lung and heart sound that will be solved and improve quality of adventitious sounds as well as the ability of early detecting in environmental noises.

- Propose a deep learning-based model developed to adapt strict criteria to be much convenient for lung and heart sound classification as well as background noise suppression.

- Prototype an embedded system for both Audio Feature Extraction and Acoustic Event Segmentation and Detection working in real time under real conditions that adapt both clinical and non-clinical environments for lung and heart sound-based observation.

March 2016 – September 2016

Thesis Title: Hardware-based Design of Dynamic Mel Frequency Cepstral Coefficient (MFCC)

Ho Chi Minh University of Technology, Ho Chi Minh City (Vietnam)

- Developed Dynamic ASIC-Based Mel Frequency Feature Extraction in Speech Recognition System

project funded by Ministry of Science and Technology of Ho Chi Minh City, Vietnam.

▪ Developed VLSI architecture for dynamic MFCC to apply in automatic speech recognition (ASR) system for blind people.

▪ Integrated dynamic MFCC architecture into embedded board for Vietnamese Speech Recognition project for the blind in Vietnam.

August 2015 – March 2016	**Capstone Project**

Ho Chi Minh University of Technology, Ho Chi Minh City (Vietnam)

▪ Developed Dynamic Fast Fourier Transform algorithms for Vietnamese Speech Recognition project for the blind in Vietnam.

▪ Conducted experiments on 130nm technology to confirm the silicon performance of Dynamic Fast Fourier Transform architecture.

August 2012 – September 2016	**Bachelor of Engineering**

Ho Chi Minh City University of Technology, Ho Chi Minh City (Vietnam)

▪ Major: Electrical and Electronics Engineering

PERSONAL SKILLS

Mother tongue(s)   Vietnamese

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	B2	B2	C1
International English Language Testing System - IELTS. Overall 7.5				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills   Strong verbal, written, and communication skills in English.

Organisational / managerial skills   Excellent organisational and prioritisation skills.

Computer languages   Python, Verilog/VHDL, C, C++, Bash/C Shell, Assembly (Vim & Linux Os).

Libraries / Tools   Librosa, Pandas, Numpy, Scikit-Learn, Keras, Tensorflow, Matlab.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Independent user	Proficient user	Proficient user	Independent user

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

Replace with name of ICT-certificate(s)

Other skills Team - work skills and ability to work independently.
Competent with statistical analysis software package.

ADDITIONAL INFORMATION

Publications

- A Deep Neural Network with Triplet Loss for Detecting Anomaly of Respiratory Sounds, in the Proceeding of DAGA 2021, Vienna, Austria, 2021.

- Deep Learning Framework Applied for Predicting Anomaly of Respiratory Sounds, The 2021 International Symposium on Electrical and Electronics Engineering (ISEE 2021), IEEE Computer Society, HCMC, 2021.

- Sound Context Classification Basing on Join Learning Model and Multi-Spectrogram Features, arXiv preprint at https://arxiv.org/pdf/2005.12779.pdf

- Low-Complexity CNN-Based Framework for Acoustic Scene Classification, Technical Report for Task 1b, DCASE 2020.

- A Re-trained Model Based on Multi-kernel Convolutional Neural Network for Acoustic Scene Classification, in The 2020 RIVF International Conference On Computing And Communication Technologies, IEEE Computer Society, HCMC, 2020.

- Acoustic Scene Classification Using A Deeper Training Method for Convolution Neural Networks, The International Symposium on Electrical and Electronics Engineering (ISEE), IEEE Computer Society, HCMC, 2019.

- Dynamic ASIC-Based Mel Frequency Feature Extraction in Speech Recognition System, International Conference on Advanced Computing and Applications (ACOMP), IEEE Computer Society, HCMC, 2016.

- Efficient Hardware Architecture for Dynamic FFT Based on Radix 2, National Conference on Electronics, Communications and Information Technology – (REV-ECIT), HCMC, 2015.

Honours and awards

- Award of a Doctoral Scholarship in the School of Computer Science and Electronic Engineering 2022, University of Essex, UK.

- Academic scholarship of top 5% in 1st semester 2015-2016.

- Academic scholarship of top 5% in 1st semester 2013-2014.

- Excellent achievement in Union works and Youth movement in year of 2013-2014.

- The best goalkeeper at Bach Khoa Dormitory Football Tournament 2013.

- Best presentation in community project in Pre-university program 2012-2013.