

Tien V. Nguyen

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Personal Profile

A postgraduate research student in Electrical and Electronics Engineering, having two years of working and research experience in embedded software engineering, robotics, digital signal processing, and machine learning.

Education

University College Cork

MSc - Electrical and Electronics Engineering

- Full-time Postgraduate Research Student at Embedded Systems Group [\[site\]](#).
- Study Edge Machine Learning, Digital Signal Processing, and Ultra-low Power Embedded Systems.
- **Courses:** Computational Machine Learning, Deep Learning.

Cork, Ireland

May 2022 - Current

Technical University of Munich

Exchange Student

- **Scholarships:** ERASMUS+ Winter Term 2019/20

Munich, Germany

Oct 2019 - Apr 2020

Hanoi University of Science and Technology

Engineer - Control Engineering and Automation

- **Minor:** Instrumentation and Industrial Informatics
- **GPA:** 3.37/4.0
- **Cohort Rank:** 9th/155
- **Scholarships:** Merit-based Encourage Learning Scholarships 2015/16

Hanoi, Vietnam

Oct 2015 - Aug 2020

MANDEVICES Laboratory

Research Student

- Studied Sensor Technologies (Eddy Current Sensors, Surface Acoustic Wave sensors) and Embedded Systems.

Sep 2018 - Aug 2020

Student Support Department, Student Union

- Provided study and student affairs support for students.

Oct 2015 - Mar 2018

Work Experience

Vietnam – Korea Institute of Science and Technology

Research Engineer

- Developed an omnidirectional robot prototype for robotic navigation study [\[site\]](#):
 - Developed an Actuator Control Software for robot wheels control [\[source\]](#).
 - Developed a Graphical User Interface (GUI) [\[source\]](#).
 - Developed the Safety Management System [\[source\]](#).
 - Designed the electrical system.
- **Skills:** Robot Operating System (ROS), QtCreator.

Hanoi, Vietnam

Aug 2021 - Apr 2022

Viettel High Technology Industries Corporation

Embedded Software Engineer

- Developed Linux Drivers and board bring-up.
- **Skills:** Linux Device Drivers, Embedded Systems Bootloaders (e.g. Das U-Boot), Yocto Project.

Hanoi, Vietnam

Nov 2020 - Aug 2021

Projects

A real-time and ultra-low power implementation of an AI-assisted sonification algorithm for neonatal EEG [\[site\]](#)

University College Cork

- Developed a real-time adaptation of an AI-assisted sonification algorithm for neonatal EEG [\[site\]](#).
- Re-trained a Fully Convolution Neural Network (FCNN) model with quantization aware using a public dataset.
- Implemented the real-time AI-assisted sonification algorithm on an ultra-low power embedded microcontroller with a neural network accelerator.
- **Skills:** Real-Time Operating System (RTOS), PyTorch, TensorFlow, NumPy, Analog Devices AI.

Cork, Ireland

May 2022 - Apr 2023

- [1] A real-time and ultra-low power implementation of an AI-assisted sonification algorithm for neonatal EEG
Tien Van Nguyen, Aengus Daly, Feargal O’Sullivan, Sergi Gomez Quintana, Andriy Temko, Emanuel Popovici
9th IEEE International Workshop on Advances in Sensors and Interfaces (IWASI), Jun. 2023, Bari, Italy

Skills

C/C++ Embedded C/C++, Standard C++

Python Pytorch, Tensorflow, Numpy

Edge Machine Learning PyTorch, Tensorflow, Analog Devices AI

Digital Signal Processing Digital Filters Design

Real-Time Operating System (RTOS) FreeRTOS

Robotics Robot Operating System (ROS)

Microcontrollers Analog Devices AI Microcontrollers

Linux Linux Device Drivers, Shell (Bash)

Achievements

Oct. 2022 **Team Ranked First in Ireland**, IEEEExtreme Programming Competition 16.0

Online

Mar. 2023 **Team Ranked Twelfth**, Irish Collegiate Programming Competition (IrlCPC) 2023

Cork, Ireland

Interests

Photography I like taking pictures of urban life, cities, and landscapes.

Astronomy I am an astronomy enthusiast and a member of an astronomy club in Hanoi, Vietnam [\[site\]](#).

Badminton I play for the UCC badminton team.

Languages

English IELTS Academic 7.5/9.0

Vietnamese Native

References

Dr. Emanuel Popovici

Director, Embedded Systems Group

Senior Lecturer, Electrical and Electronic Engineering

University College Cork, Cork, Ireland

e.popovici@ucc.ie

Assoc. Prof. Hong Hoang Sy

Director, MANDEVICES Laboratory

Vice Dean, School of Electrical Engineering

Hanoi University of Science and Technology, Hanoi, Vietnam

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