Tien V. Nguyen

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Personal Profile

I am a software and system engineer with three years of experience in sensor systems, signal processing, machine learning, and robotics. Some of my past works are presented with more details on my website.

Work Experience

Qualcomm Technologies — *Cork, Ireland*

System Engineer - Sensors — *May 2024 - Current*

- Develop mobile and IoT solutions on sensors.
- Develop algorithm backend for on-device applications.

Vietnam – Korea Institute of Science and Technology — *Hanoi, Vietnam*

Research Engineer — *Aug 2021 - Apr 2022*

- Developed software and system for robotic platforms.
- Worked in a cross-disciplinary research group.

Viettel High Technology Industries Corporation — *Hanoi, Vietnam*

Software Engineer - Embedded — *Nov 2020 - Aug 2021*

- Developed drivers and board bring-up for Linux embedded devices.

Education

University College Cork — *Cork, Ireland*

Masters by Research - Electrical and Electronics Engineering — *May 2022 - May 2024*

- Graduated with First Class Honours.
- Full-time Research Student at the Embedded Systems@UCC Group.
- Thesis titled "Low-Power Real-Time Seizure Monitoring via AI-Assisted Sonification of Neonatal EEG".

Hanoi University of Science and Technology — *Hanoi, Vietnam*

Engineer - Control Engineering and Automation — *Oct 2015 - Aug 2020*

- Minored in Instrumentation and Industrial Informatics.
- Graduated with GPA 3.37/4.0 and ranked 9th/155.
- Exchange studied at Technical University of Munich, Munich, Germany with ERASMUS+ Scholarship Winter Term 2019/20.

Publications

[1] Low-Power Real-Time Seizure Monitoring Using AI-Assisted Sonification of Neonatal EEG
Tien Nguyen, Aengus Daly, Sergi Gomez-Quintana, Feargal O'Sullivan, Andriy Temko, Emanuel Popovici
IEEE Transactions on Emerging Topics in Computing, vol. 13, no. 1 pp. 80–89, 2025, DOI: 10.1109/TETC.2024.3481035

[2] 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
2023 9th International Workshop on Advances in Sensors and Interfaces (IWASI) 2023, DOI: 10.1109/IWASI58316.2023.10164463

Projects

Low-Power Real-Time Seizure Monitoring via AI-Assisted Sonification of Neonatal EEG — *Cork, Ireland*

University College Cork — *May 2022 - Dec 2023*

- Developed a Real-time AI-assisted Sonification Algorithm for neonatal EEG.
- Quantized and ported deep learning algorithms on low-power hardware.

Skills

Data Analysis Matlab; Python: *Pandas, Matplotlib, Seaborn, etc.*
Machine Learning Python: *PyTorch, PyTorch3D, Tensorflow, etc.*
Digital Signal Processing Matlab; Python: *Numpy, SciPy, Librosa, etc.*; C/C++: *CMSIS, Boost, etc.*
Real-Time Programming C/C++: *FreeRTOS, Boost, Standard*
Embedded Linux Linux Device Drivers, Yocto Project, Bootloaders
Robotics Robot Operating System (ROS)
Others HTML, JavaScript, CSS, Git, Docker, BashScript, etc.

Achievements

Oct. 2022 **Team Ranked First in Ireland,** IEEEXtreme Programming Competition 16.0 *Online*
Mar. 2023 **Team Ranked Twelfth,** Irish Collegiate Programming Competition (IrlCPC) 2023 *Cork, Ireland*

References

Dr. Emanuel Popovici
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