Hien Vu

465 Northwestern Ave, West Lafayette, IN 47907
hienvu@purdue.edu · hienvuvg.github.io

A highly motivated researcher with a track record of developing effective solutions in ML-driven system design, low-power wireless sensing, and optimization for electronic systems. Seeking a challenging role where I can leverage my expertise in scientific discovery, problem-solving, and cross-disciplinary collaboration to drive impactful projects and contribute to a dynamic research team.

Education

Purdue University, West Lafayette, Indiana, USA (expected) 2026
- Ph.D. in Electrical and Computer Engineering

University of Wisconsin–Madison, Madison, Wisconsin, USA 2023
- M.Sc. in Electrical and Computer Engineering

Hanoi University of Science and Technology, Hanoi, Vietnam 2018
- B.Sc. in Electronics and Telecommunications Engineering

Professional Experience

Research Assistant, Purdue University, WL, IN, USA 2023–Present
- Pioneered the development of MmCows, a multimodal dataset for dairy cattle monitoring, leading to a spotlight paper at NeurIPS 2024 (top 5% rating).
- Engineered low-power wireless sensing mechanisms, advancing precision agriculture through innovative health monitoring techniques for dairy cattle.

Research Assistant, University of Wisconsin–Madison, Madison, WI, USA 2021–2023
- Designed and developed eTag, an energy-neutral ear tag for real-time body temperature monitoring, resulting in a publication at ACM MobiCom 2023.
- Optimized RFID backscattering and integrated inductive resonant coupling to create a low-power, effective wireless temperature measurement and power transfer system.

Research Assistant, Soongsil University, Seoul, South Korea 2019–2021
- Formulated and implemented novel control strategies for internal heating of Li-ion batteries, significantly improving performance and battery lifespan in cold conditions.
- Engineered a high-speed, high-performance FPGA-based NAND flash storage system and a flexible, portable, non-interrupt conformal wearable battery for military applications.

Key Skills

- **Machine Learning & AI:** ML-based computer vision, sensor data fusion, and real-time ML deployment.
- **Programming:** Python, C/C++, MATLAB, Assembly, Verilog.
- **Embedded Systems:** Microprocessor design, real-time systems, and sensor integration.
- **Hardware Design:** High-speed/high-power/low-power systems design, wireless sensing systems.
- **Data Analysis & Simulation:** Physical system modeling, multimodal signal processing, MATLAB simulations.
- **Cross-Disciplinary Work:** Proven ability to work with diverse teams to develop and deploy complex systems.

Selected Publications

- **MmCows**: A Multimodal Dataset for Dairy Cattle Monitoring. *NeurIPS 2024 (Spotlight paper, top 5% ratings)*.
- **eTag**: An Energy-Neutral Ear Tag for Real-Time Body Temperature Monitoring of Dairy Cattle. *ACM MobiCom 2023 (acceptance rate 24%)*.
- Simultaneous Internal Heating for Balanced Temperature and State-Of-Charge Distribution in Lithium-ion Battery Packs. *Journal of Energy Storage 2023*.