

Vu LeDuc (Vu)

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EDUCATION

Vietnam National University, Hanoi (VNU).

Bachelor of Mechatronics and Automation

August 2018 - June 2022

- Cumulative GPA: 3.43/4.0 (**Top 2 %** in the faculty)
- Final project: “Low Illumination Image Enhancement for Night-Time Pedestrian Detection on YOLOv3”.
- Relevant projects: Apple defect detection with YOLOv3, Face mask detection, Triplet Attention for increasing performance.

SKILLS

Technical Skills

- **Programming** - Python, Bash (proficient), Scala, Java
- **Specialized skills** - Deep Learning, Computer Vision, GAN, Computer Architecture.
- **Frameworks** - PyTorch, Slurm, Container, Vitis-AI, TensorRT.
- **Tools & Technology** - Linux servers, LaTeX, Git, Emacs Lisp, Networking

General Skills

- **Languages** - Vietnamese (native), English (IELTS 7.5)

EXPERIENCE

George Mason University

FairFax, Virginia, USA

Research Intern (remote)

Sep 2023 - present

- Volumetric video streaming (will be updated soon) for VR & AR

Phenikaa-X

Hanoi, Vietnam

AI & FPGA engineer

August 2023 - present

- Embedded FPGA vision for autonomous parking systems.

Phenikaa University

Hanoi, Vietnam

Research Associate

July 2022 - August 2023

- Developing AI models for landmark detection from radar signals following the teacher-student style, achieving 3 % error on pixel level compared to image-based models.

Information Technology Institute (ITI-VNU)

Hanoi, Vietnam

Research Intern

August 2020 - May 2022

- LSI Design Contest
 - Designing a custom ASIP under RISC-V for a Deep Q-Network accelerator and implemented a multi-cycle micro-architecture of this ASIP with Chisel HDL and Scala on FPGA.
 - Documenting a report of this work and submitted to the LSI Design Contest in Japan as a single player and was awarded the Fighting Spirit Prize at the conference.
- SISLAB - Toshiba-Japan joint project on “CNN Accelerator for handwritten digits recognition”.
 - Designing, implementing a camera interface and a copy version of the I2C protocol and integrating them on Chipyard platform (an agile RISC-V SoC) to configure working modes for the camera and acquire videos, images for a CNN accelerator through an embedded software via a RISC-V core and run on FPGA.
- Implementing Q-learning algorithm with Chisel HDL on FPGA.
- Studying about digital design, computer architecture with RTL design and computer organization.

SELECTED ACHIEVEMENTS

International

- Finalist, Most Creative Prize (second place) at the IEEE SEACAS Hackathon 2022, NTU, Singapore
- Finalist, Fighting Spirit Prize at the 25th LSI Design Contest in Okinawa 2022, Kyutech, Japan
- Exchange student in the Sakura Science Program 2021, UEC, Tokyo, Japan
- Exchange student in the TF Scale 2021, Singapore
- Incentive Prize at the TF Scale Programme 2021, Singapore

Domestic

- Outstanding Youth Face award of UET-VNU 2020, UET-VNU
- Third prize in the 2020 Student-level Scientific Research Conference 2020, UET-VNU
- Merit – based scholarships for top 5% excellent academic students 2020, UET-VNU

RELEVANT COURSEWORKS

University	MATLAB, Micro-controllers, Digital Techniques, C++ programming, Algebra, Calculus.
Open Courses	Computer Organization, Digital Design and Computer Architectures (ETH Zurich), Object Oriented Programming
Coursera	Machine Learning and Deep Learning Specialization on Coursera, Data Structure and Algorithms (Princeton), Generative Adversarial Networks (GANs), Software Architecture.

PUBLICATIONS

- [1]. Minh Huy Le, **Duc Vu Le**, Tien Dat Le, and Jinyi Lee. Ultrasonic testing of rivet in multilayer structure using convolutional neural network on edge device. Science Progress, 106(2):00368504231177551, 2023.
- [2]. Minh Huy Le, **Duc Vu Le**, Vu Thi Hong Ha. Thermal Inspection of Solar Photovoltaics Modules with Deep Convolutional Neural Network on Edge Device of AUV. Measurement (2023): 113135 (**IF=5.131**)
- [3]. **Vu Le**, Tuan Trinh The, Minh Huy Le, and Jinyi Lee. Hand-pose estimation from mmWave radar signals. Measurement (Oct 2023 expected)
- [4]. Phan, Hai, Anh Nguyen, Cindy Le, **Vu Le**, and Yihui He. Faster and Interpretable Face Recognition for Out-Of-Distribution Data Using Vision Transformers (ViTs). In Proceedings of the IEEE/CVF winter conference on applications of computer vision (under review).