

Hue Nguyen

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RESEARCH INTERESTS

Computational photography: image/video restoration.

Data-efficient in computer vision: self-supervised learning, unsupervised learning, unsupervised domain adaptation.

EDUCATION

VNU University of Engineering and Technology (VNU UET)

Aug. 2017 – Jun. 2021

Bachelor of Information Technology

Hanoi, Vietnam

- GPA: 3.86/4.00 (ranked 3rd / 1159).
- Degree classification: High distinction.
- Advisor: [Dr. Diep Nguyen](#)
Thesis: Handwritten text generation with stroke vectorization and augmentation.

EXPERIENCE

AI Engineer – VinAI Research – [vinai.io](#)

July. 2022 – Present

Smart Mobility Team - Advised by [Dr. Rang Nguyen](#)

Hanoi, Vietnam

- Work on surrounding view monitoring system for drivers in low light environment. A real-time image denoising module have been delivered to the final product.
- Work on automated valet parking, focusing on simultaneous localization and mapping problem. My role is to explore and implement algorithms for reconstructing the local map surrounding the vehicle with noisy motion estimation.

AI Resident – VinAI Research

Oct. 2020 – July. 2022

Computer Vision Group - Advised by [Dr. Rang Nguyen](#) and [Dr. Khoi Nguyen](#)

Hanoi, Vietnam

- Research topic: Image and Video Enhancement.
- Review related works of image and video restoration. Propose and implement self-supervised frameworks to enhance the quality of images and videos under extreme lighting conditions.
- Design, conduct experiments and write scientific papers.

Undergraduate Research Assistant - VNU UET

Jun. 2019 – Oct. 2020

Software Engineering Laboratory - Advised by [Dr. Hieu Dinh Vo](#)

Hanoi, Vietnam

- Research topic: automatic parallelization for C/C++ programs to reduce the running time of a program on a multi-processor system.
- Review related works, propose and implement algorithms to find factors that prevent parallelizing programs.
- Design a high-level architecture and algorithms for an automatic program parallelization framework.

PROJECTS

Domain adaptation for vision tasks under adverse weather conditions

Aug. 2022 - Present

Advised by [Prof. Michael S. Brown](#) and [Dr. Rang Nguyen](#)

- Propose several ideas to explore the invariant representation for deep learning feature under different weather conditions and conduct experiments to verify them.

Image and video enhancement under extreme light conditions

Oct. 2020 - July. 2022

Advised by [Dr. Rang Nguyen](#) and [Dr. Khoi Nguyen](#)

- Research and propose a novel self-supervised framework for image enhancement and exposure correction. This approach helps training model without requiring paired or unpaired training data.
- Review related works in the topic of HDR video reconstruction. Propose several ideas to train models in self-supervised manner and conduct experiments to verify them.

Handwritten text generation with stroke vectorization and augmentation

Nov. 2020 - Apr. 2021

Undergraduate thesis - Advised by [Dr. Diep Nguyen](#)

- Research and propose a novel method to generate a diverse style handwriting dataset by modifying text images at stroke levels.

PUBLICATIONS

PSENet: Progressive Self-Enhancement Network for Unsupervised Extreme-Light Image Enhancement

Hue Nguyen, Diep Tran, Khoi Nguyen, Rang Nguyen

Published at WACV 2023.

Practical approach to access the impact of global variables on program parallelism

Thu-Trang Nguyen, Hue Nguyen, Quang-Cuong Bui, Pham Ngoc Hung, Dinh-Hieu Vo, Shigeki Takeuchi

Published at ACOMP 2020.

ACADEMIC HONORS AND AWARDS

The Semester Excellence Scholarship

2017 - 2021

VNU University of Engineering and Technology

- Award top 5% of students with the greatest academic performance.

POSCO Scholarship for Excellent Students

2021

Posco T.J.Park Foundation

- Award 2 students with \$1000 for academic excellence in university.

Mitsubishi Scholarship for Excellent Students

2020

Mitsubishi UFJ Foundation

- Award 5 students for academic excellence in university.

The First Prize of the Self-driving Car Programming Contest Digital Race

2019

VNU University of Engineering and Technology

- Study and apply a wide range of traditional computer vision algorithms to program the car to drive in a simulator and a race track.

The First Prize of Code War Championship

2019

Topica Edtech Group

- Award \$1000 for the team with highest score in a competitive programming contest.

Award for the Valedictorian

2017

VNU University of Engineering and Technology

SKILLS

Languages: English (IELTS Overall 7.0, Reading 8.5, Listening 7.5, Writing 6.0, Speaking 6.0).
Japanese (JLPT N3).

Programming: Python, C/C++, OpenGL.

Software & Tools: **Machine learning:** Pytorch, Tensorflow, Scikit learn.
Others: OpenCV, Matplotlib, ROS.

EXTRACURRICULAR ACTIVITIES

Vice President of Human Resource of Technology Club

2018 - 2020

VNU University of Engineering and Technology

- Organize technical events, workshops and classes for Computer Science students.

REFERENCES

Dr. Rang Nguyen, Applied Research Scientist

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VinAI Research, Vietnam

Dr. Khoi Nguyen, Research Scientist

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VinAI Research, Vietnam

Dr. Diep Nguyen, PhD Lecturer

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Institute for Artificial Intelligence, VNU UET