

EDUCATION

Electrical and Computer Engineering, University of Illinois at Urbana-Champaign (UIUC) IL, USA

Ph.D. Candidate (Expected day of graduation: 5/2026) 6/2020-present

- **Research interest:** computer vision and machine learning; medical image processing, AI in healthcare, 3D human pose estimation, and federated learning.
- **GPA:** 4.0/4.0
- **Academic advisor:** Prof. Minh N. Do

Computer Science, University of Science, VNU-HCM

Ho Chi Minh City, Vietnam

Bachelor of Science, Honor Program

2015-2019

- **GPA:** 9.25/10.0 (Top 2/600 - Degree class: *Excellent*)
- **Academic advisor :** Assoc. Prof. Minh-Triet Tran

WORK EXPERIENCE

Argonne National Laboratory

IL, USA

Student Internship at Data Science Learning Division

6/2022-9/2022

- **Description:** Enhancing the capabilities of APPFL: Argonne Privacy-Preserving Federated Learning framework[†], and conducting federated learning experiments in various biomedical tasks collaboratively across multiple research institutes.
- **Advisor:** Ravi K. Madduri

Coordinated Science Laboratory, University of Illinois at Urbana-Champaign

IL, USA

Student Internship at Computational Imaging Group

9/2019-11/2019

- **Description:** Proposing and developing the Digitized Neurological Examination (DNE) system to collect, visualize, annotate, and quantify digital biomarkers from neurological exam video recordings obtained by multiple sensors, including 3D cameras, smartphones/tablets, and wearable sensors.
- **Advisor:** Prof. Minh N. Do

Software Engineering Laboratory, University of Science, VNU-HCM

Ho Chi Minh City, Vietnam

Research Assistant at Multimedia and Human Computer Interaction Group

8/2018-9/2019

- **Description:** Proposing and developing a diagnostic support system that can help doctors to find diseases, abnormal marks, anatomical landmarks in human gastrointestinal tract from endoscopic imaging. We also participated in several projects in computer vision and machine learning (*Intelligence Traffic System - AI City challenge*, *Video Instance Segmentation – the DAVIS challenge (CVPRW)*; *Visual Life-logging*).
- **Advisor:** Assoc. Prof. Minh-Triet Tran

College of Engineering and Computer Science, VinUniversity

Ha Noi, Vietnam

Teaching Assistant

1/2021-5/2021

- **Description:** Designing programming assignments in Python and teaching the lab section and for CECS1020 - Introduction to Machine Learning by Prof. Minh N. Do, Spring 2021 semester.

Artificial Intelligence Laboratory, University of Science, VNU-HCM

Ho Chi Minh City, Vietnam

Research Assistant at Robotics & IoT Club

8/2018-9/2019

- **Description:** Serving as an instructor at several introductory-level courses in Python programming, and IoT.
- **Advisor:** Prof. Minh-Triet Tran, MSc. Xuan-Nam Cao

SKILLS

1. **Programming languages:** Python, C/C++, C#, Swift, JavaScript, HTML/CSS
2. **Technologies:** PyTorch, TensorFlow, NumPy, OpenCV, Unity, NodeJS, \LaTeX
3. **Languages:** Vietnamese (native), English (fluent)

PUBLICATIONS

1. **Trung-Hieu Hoang**, Phan Nhat Huy*, Mona Zehni*, Minh N. Do. Robust 3D Human Pose Estimation: A Benchmark and Learning from Noisy Input. (*Under review*)

[†]<https://github.com/APPFL/APPFL>

*Equally contributed

2. **Trung-Hieu Hoang*** and Mona Zehni*, Huaijin Xu, George Heintz, Christopher Zallek, Minh N. Do. Towards a Comprehensive Solution for a Vision-based Digitized Neurological Examination. *IEEE Journal of Biomedical and Health Informatics*, 2022.
3. **Trung-Hieu Hoang***, Aaron M. Jankelow*, Hankeun Lee*, Weijing Wang* et al., “Smartphone Clip-On Instrument and Microfluidic Processor for Rapid Sample-to-Answer Detection of Zika Virus in Whole Blood Using Spatial RT-LAMP”, *Analyst*, 2022.
4. Minh-Triet Tran, Tam V Nguyen, **Trung-Hieu Hoang** et al. iTASK-Intelligent Traffic Analysis Software Kit. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops*, 2020.
5. Minh-Triet Tran, **Trung-Hieu Hoang** et al. Multi-Referenced Guided Instance Segmentation Framework for Semi-supervised Video Instance Segmentation. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops*, 2020.
6. **Trung-Hieu Hoang**, Hai-Dang Nguyen, Viet-Anh Nguyen, Thanh-An Nguyen, Vinh-Tiep Nguyen, Minh-Triet Tran. Enhancing Endoscopic Image Classification with Symptom Localization and Data Augmentation. *Proceedings of ACM Multimedia*, 2019.
7. Khac-Tuan Nguyen, **Trung-Hieu Hoang**, Minh-Triet Tran, Ngoc-Minh Bui, Trong-Le Do, Viet-Khoa Vo-Ho, Quoc-An Luong, Mai-Khiem Tran, Thanh-An Nguyen, Thanh-Dat Truong, Vinh-Tiep Nguyen, Trung-Nghia Le, and Minh N. Do. Vehicle Re-identification with Learned Representation and Spatial Verification and Abnormality Detection with Multi-Adaptive Vehicle Detectors for Traffic Video Analysis. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops*, 2019.
8. Minh-Triet Tran, Trung-Nghia Le, Tam V. Nguyen, That-Vinh Ton, **Trung-Hieu Hoang**, Ngoc-Minh Bui, Trong-Le Do, Quoc-An Luong, Vinh-Tiep Nguyen, Duc Anh Duong, Minh N. Do. Guided Instance Segmentation Framework for Semi-supervised Video Instance Segmentation. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops*, 2019.
9. **Trung-Hieu Hoang**, Mai-Khiem Tran, Vinh-Tiep Nguyen, Minh-Triet Tran. Solving Life Puzzle with Visual Context-based Clustering and Habit Reference. *ImageCLEF - Multimedia Retrieval in CLEF 2019*.
10. Nguyen-Khang Le, Dieu-Hien Nguyen, **Trung-Hieu Hoang**, Thanh-An Nguyen, Thanh-Dat Truong, Duy-Tung Dinh, Quoc-An Luong, Viet-Khoa Vo-Ho, Vinh-Tiep Nguyen, and Minh-Triet Tran. *Smart lifelog retrieval system with habit-based concepts and moment visualization. LSC*, 2019.

List of publications on [Google scholar](#).

BOOK CHAPTER

1. Hai-Quan Vu, Xuan-Nam Cao, Trung-Hieu Hoang, Hai-Trieu Nguyen, Chi-Tai Vong. “Introduction to Python programming language” (in Vietnamese). *Vietnam National University in Ho Chi Minh City*, 2019.

TEACHING ASSISTANTSHIP

- CECS1020 - Introduction to Machine Learning (VinUniversity - Spring 2021)
- ECE 310 - Digital Signal Processing (UIUC - Fall 2022)

RELEVANT COURSES

- **ECE 449 - Machine Learning** by Prof. Sanmi Koyejo (UIUC - Fall 2020)
- **ECE 490 - Introduction to Optimization** by Prof. Venugopal V. Veeravalli (UIUC - Fall 2020)
- **ECE 549 - Computer Vision** by Prof. Saurabh Gupta (UIUC - Spring 2021)
- **CS547 - Deep Learning** by Prof. Richard Sowers (UIUC - Spring 2021)
- **ECE 534 - Random Processes** by Prof. Dimitrios Katselis (UIUC - Fall 2021)
- **ECE 551 - Digital Signal Processing II** by Prof. Zhi-Pei Liang (UIUC - Fall 2021)
- **ECE 416 - Biosensors** by Prof. Brian T. Cunningham (UIUC - Spring 2022)
- **ECE 566 - Computational Inference and Learning** by Prof. Pierre Moulin (UIUC - Fall 2022)
- **ECE 543 - Statistical Learning Theory** by Prof. Dimitrios Katselis (UIUC - Spring 2023)
- **ME 481 - Whole-Body Musculoskel Biomech** by Prof. Mariana E. Kersh (UIUC - Spring 2023)

HONORS AND AWARDS

- Asia Regional Winner in Computer Science field – The Global Undergraduate Awards 2020 2020
- Recommended candidate by VEF 2.0 Program 2020
- 4th Place Award - the Semi-supervised track, DAVIS Challenge 2020, CVPR 2020 2019
- Ho Chi Minh City Young Citizenship Award 2019 2019
- 1st prize – the 21st National Student Scientific Research 2019
- 3rd Place Award - the Semi-supervised track, DAVIS Challenge 2019, CVPR 2019 2019
- Ho Chi Minh City ICT Award in 2018 2018
- 1st prize in Makerthon 2018 (hackathon competition) 2018

- Prospect prize in KMS Hackathon 2018 – 30-hour hacking for social impacts 2018
- 3rd prize (physics and astronomy) Viet Nam National Student Science and Engineering Fair 2015
- 2nd prize (computer science) Viet Nam National Student Science and Engineering Fair 2014
- Silver medals in the April 30th Tradition Olympiad (computer science subject) 2014 – 2015

INTERNATIONAL EXCHANGE PROGRAM

1. 14th Enterprise Summer Programme, National University of Singapore July 2019
2. ASEAN – India International Exchange program, India May 2018
3. 2018 Asia-Pacific Youth Forum on Digital Innovation and Entrepreneurship, Taipei October 2018
4. Spring School Programme 2017, Chiba University and ASEAN University Network, Japan March 2017

REFERENCE

1. **Prof. Minh N. Do**, Department of Electrical and Computer Engineering - University of Illinois at Urbana-Champaign (UIUC) *minhdo@illinois.edu*
2. **Assoc. Prof. Minh-Triet Tran**, Vice President, Head of Software Engineering Lab, Deputy Head of Artificial Intelligence Lab – University of Science, VNU-HCM *tmtriet@hcmus.edu.vn*