Hoang Dieu Vu

Hanoi, Vietnam

📱 +84 84 211 6568 • ✉ vuhoangdieu@gmail.com

🌐 scholar.google.com/citations?user=t48gZZ4AAAAJhl=enoi=ao

Msc Hoang Dieu Vu is a lecturer at Faculty of Electrical and Electronic Engineering, Phenikaa University. Also, he was a member of Data Science Lab, Hanoi University of Science and Technology (HUST) for 6 years. He received the excellent B.Eng degree with a high CPA in Information Technology from HUST. He also received the best thesis award in 2018. He got a Master of Science degree about Data Science in 2020. He has joined Data Science Lab as a research assistant since early 2016. His interests are in the areas of machine learning, deep learning, and continual learning. He has interned at Data Science Lab, Korea Advanced Institute of Science and Technology (KAIST) for 2 months. His research interests include machine learning, deep learning, and continual learning. In particular, I focus on deep learning for smart health.

EDUCATION

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY (HUST)   **HaNoi**

Master of Data Science   *May 2019*

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY (HUST)   **GPA: 3.61/4.0 (top 5%)**

Bachelor of Information Technology   *2014-2018*

LE HONG PHONG HIGH SCHOOL FOR THE GIFTED – NAM DINH   **Mathematics**

Finalist in 2 continuous years of provincial contest for Mathematics   *2011-2014*

WORKING EXPERIENCE

Research Assistant

DATA SCIENCE LAB - HUST

Jan 2016-present

Representation Learning, Big Data, Machine Learning

- Main Research: "Learning an effective representation for the hidden semantics"
- Funded by: US Office of Naval Research Global.
- Assisted Prof. Than Quang Khoat – data collection, novel modeling, designing and implementation, analysis visualization, reviewing/reporting line management, and other paperwork.
- Projects
  - **Reducing overlapping for supervised dimension reduction**: Discussing and proposing an improvement for supervised dimension reduction framework.
  - **Revisiting supervised word embedding**: Investigate comprehensively a various of approaches to learn supervised word embedding, particular, supervised topic models based approaches.
    I have extensive experiments to prove the preeminence of my approach.
- Programming Language: C, C++, Python.
- Frameworks/Librarys: Pytorch, Tensorflow, numpy, pandas, sklearn, ...

Jan 2020-present

Vision-based Continual Learning

- Main Research: Human knowledge in Machine Learning models for big and streaming data
- Funded by: Vingroup Innovation Foundation.
- Assisted Prof. Than Quang Khoat and Prof. Khoa Luu.

R&D Executive   *CODELOVERS VIETNAM COMPANY*

The company work mainly with Japanese partner company. Some projects are related to IoT, Robotic, and Computer Vision.

- **June – Dec 2018**

  OCR Project: Build an OCR application to automate image conversion to text entities for business card images, and report directly to CTO.

- **Jan – Aug 2017**

  Sokoban Robot: Building a robot with Raspberry Pi 3 and Arduino Uno. Web service was implemented on Pi3 by NodeJS. Sokoban Robot will learn the given map and then send the solution to Arduino to control the robot. Detail state of the robot could be monitored on a web browser.

Business Analyst
                                        JAPAN SECURITIES INCORPORATED
Aug - Dec 2018

- Implemented survey, analysis, and designed IT system for a Vietnamese stock trading application by C#.

Teaching Assistant

Dec 2018 - present

- Introduction to Data Science.

Internship
                        Data Science Lab - KAIST and Institute of Basic Science - Korea
June 2019 - August 2019

Super-Resolution on Satellite Imagery using Deep Learning.

- Work with Prof. Meeyoung Cha and the GIS team.
- Survey super-resolution algorithms and apply them to satellite images.
- Write a technical report at a workshop co-located with ICCV 2019.

Lecturer
                                        Faculty of EEE, PHENIKAA UNIVERSITY
2020 - Present

Teaching Courses

- Mathematics for Artificial Intelligence
- Introduction to Data Science and Artificial Intelligence

- Fundamentals of Reinforcement learning
- Advanced Reinforcement learning
- Natural Language Processing

PUBLICATIONS (11)

- Dieu Hoang Vu, Duc-Nghia Tran, Ly Khanh Can, To-Hieu Dao, Dat Dinh Pham, & Tran Duc-Tan (2023). Enhancing sleep postures classification by incorporating acceleration sensor and LSTM model. In 2023 IEEE Statistical Signal Processing Workshop (SSP) (SSP 2023).
- To-Hieu Dao, Duc-Nghia Tran, Quang-Trung Hoang, Dieu Hoang Vu and Dinh Tien Huy, & Tran Duc-Tan (2023). Developing Real-time Automatic Step Detection on a low-cost,performance-constrained microcontroller. In 2023 IEEE Statistical Signal Processing Workshop (SSP) (SSP 2023).
- Quang-Tu Pham, Hoang-Dieu Vu, To-Hieu Dao, Dinh-Dat Pham, Van-Quan Nguyen, Duc-Nghia Tran, and Duc-Tan Tran, "Deep reinforcement learning for Playing Caro Game without human feedback", VNICT 2023 – Bac Ninh, Oct. 2023, pp.113-118. ISBN: 978-604-67-2746-0.
- Hoang-Dieu Vu, Dinh-Hieu Le, Khanh-Ly Can, Hieu Dao-To, Dinh-Dat Pham, Sy-Hiep Nguyen, Ha-My Nguyen, and Duc-Nghia Tran. "Monitor Respiration Rate and Sleep Position Using Multi-task Learning." In International Conference on Advances in Information and Communication Technology, 2023, pp. 86-93, doi: $10.1007/978-3-031-49529-8_10$, Springer Nature Switzerland, Online ISBN: 978-3-031-49529-8. (Scopus).
- Hoang-Dieu Vu, Dinh-Hieu Le, Khanh-Ly Can, To-Hieu Dao, Dinh-Dat Pham, Sy-Hiep Nguyen, Ha-My Nguyen, and Duc-Nghia Tran, "Monitor Respiration Rate and Sleep Position Using Multi-task Learning," in Advances in Information and Communication Technology, 2023, pp. 86–93. (Scopus).
- To-Hieu Dao, Hoang Thi Hai Yen, Van-An Tran, Hoang-Dieu Vu and Duc-Nghia Tran, "Design and Implementation of a Natural Respiratory Rate Monitoring System using Flex and Inertial Sensors on Medium-Power Microcontrollers," in Advances in Information and Communication Technology, 2023 (2) (Scopus).
- T.-H. Dao, Hoang-Dieu Vu, et al., "Analysis and Prediction for Air Quality Using Various Machine Learning Models," in Proceedings of the Seventh International Conference on Research in Intelligent and Computing in Engineering, 2022, vol. 33, pp. 89–94, doi: 10.15439/2022R03. (Scopus)
- Sungkyu Park, Sungwon Han, Jeongwook Kim, Mir Majid Molaie, Hoang Dieu Vu, Karandeep Singh, Jiyoung Han, Wonjae Lee, Meeyoung Cha (2021). COVID-19 Discourse on Twitter in Four Asian Countries: Case Study of Risk Communication. Journal of Medical Internet Research. Volume 23, pp e23272. (Q1 ranking on Scimago)
- DIEU VU, KHANG TRUONG, KHANH NGUYEN, NGO VAN LINH, KHOAT THAN (0). Revisiting Supervised Word Embeddings. Journal of Information Science and Engineering. Volume 38, pp . (Q3 ranking on Scimago)
- C. Phentmunee, H. Doan Thi, **H. Dieu Vu**, D. Ahn, H.Cha, S. Han, and M. Cha. "Image Super-Resolution Techniques Applied on Satellite Imagery" In International Workshop and Challenge on Real-World Recognition from Low-Quality Images and Videos, co-located with ICCV (rank: A*), 2019
- Nguyen Trong Tung, **Vu Hoang Dieu**, Khoat Than, and Ngo Van Linh. 2018. *"Reducing Class Overlapping in Supervised Dimension Reduction"*. In Proceedings of the Ninth International Symposium on Information and Communication Technology (SoICT 2018). ACM, New York, NY, USA, 8-15. DOI: https://doi.org/10.1145/3287921.3287925

KEY SKILLS

Programming

2016 - Present

- Basic: Latex, OpenOffice, Linux.
- Intermediate: C, C++, Java, Matlab, PHP, JavaScript, HTML, CSS, MongoDB, MySQL, ...
- Advanced: Python (using libraries: numpy, scipy, pandas, Keras, Pytorch, ...)

Additional Skills

2016 - Present

- Latex: Writing technical or scientific documents.
- English: Writing and Reading papers.

COURSES

Machine Learning *Prof. Andrew Ng*

- Unsupervised algorithms, supervised algorithms such as SVM, Regression, Neural Networks, ...

Deep Learning for Natural Language Processing *Stanford University*

- Understanding the concepts of deep learning models, build and train a neural network for NLP.

Bayesian Model *Prof. Than Quang Khoat* (*Head of Data Science Lab, HUST*)

- Understanding the basis of Bayesian models and topic models to apply for text mining.

Data Mining (Summer School 2016) *University of Engineering and Technology*

- Understanding data mining techniques.

Data Science (Mini Course 2017) *Vietnam Institue for Advanced Study in Mathematics*

- Important trends of data science and its applications.

HONORS & AWARDS

- VINIF Scholarship for PhD Student (roughly 6100 USD)
- Best Bachelor's Thesis Award (Class 2018).
- Lotte Scholarship for top 1% IT Engineering student (2018).
- Six times grantee - full tuition scholarship for 3% best students in HUST (2014 – 2018).

LANGUAGE

- Vietnamese: **Mothertongue**
- English: **Intermediate**

REFERENCE

- **Prof. Tran Duc Tan**, PhD (Supervisor)

  Vice-Dean, Faculty of Electrical and Electronic Engineering, Phenikaa University, Hanoi 12116, Vietnam