

Khiem H. Le (B.Sc.)

PERSONAL INFORMATION

Research Assistant

VinUniversity, Hanoi, Vietnam

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EDUCATION

B.Sc., Mathematics and Computer Science

Sep 2017 - Sep 2021

Vietnam National University - University of Science (VNUHCM-US)

Thesis: [Vietnamese Sentiment Classification Using Deep Learning Methods](#) - GPA: 3.0/4.0

RESEARCH EXPERIENCE

Research Assistant

Jan 2023 - Present

[Information Security Lab](#)

VinUniversity

- *Federated Domain Generalization*
Design an efficient Federated Learning algorithm for training Deep Learning models to comprehensively distill domain-invariant representation, enabling the global model robust to data distribution shift.
- *Federated Learning and Internet of Things*
Design and conduct extensive experiments on a large network of IoT devices in an experimental study to understand the behaviors of Federated Learning algorithms in real-world settings.

Research Assistant

Jan 2022 - Dec 2022

[VinUni-Illinois Smart Health Center](#)

VinUniversity

- *ECG-Based Arrhythmia Detection*
Develop and deploy a highly accurate, lightweight, and explainable Deep Learning system for identifying abnormal heart rhythms based on reduced-lead electrocardiograms.

Research Intern

Oct 2020 - Dec 2021

[Smart Health Center](#)

Vingroup Big Data Institute

- *Abnormality Detection on Chest Radiographs*
Propose a training strategy for Deep Learning detectors to leverage annotations from multiple experts to improve the performance of thoracic abnormalities detection on chest radiographs.

Research Intern

Jan 2020 - Sep 2020

[Artificial Intelligence Solution for Industrial Applications Research Lab](#)

VNUHCM-US

- *Vietnamese Natural Language Processing*
Propose a Mixture-of-Experts mechanism to take advantage of multiple pre-trained language models and tackle the shortage of available annotated data for the Vietnamese sentiment classification task.

TEACHING EXPERIENCE

Academic Mentor

Jan 2023 - Present

[FPT FUNIX](#)

- *Machine Learning Series*
Resolve learners' issues during lectures studying. Grade programming assignments and final exams.

- *Undergraduate Research Opportunities Program (UROP)*
Prepare undergraduates with practical knowledge of Deep Learning and the skills required for doing research.

SELECTED PUBLICATIONS

UNDER REVIEW

GT Do, [KH Le](#), TT Nguyen, QH Pham, BT Nguyen, TN Doan, C Liu, R Savitha, X Li, SCH Hoi
[HyperRouter: Toward Efficient Training and Inference of Sparse Mixture of Experts](#)
Under Review at **Empirical Methods in Natural Language Processing (EMNLP 2023)**

Khiem Le-Huy, Long Ho-Tuan, Cuong Do-Danh, Danh Le-Phuoc, Kok-Seng Wong
[Comprehensive Domain-Invariant Features Learning for Federated Domain Generalization](#)
Under Review at **Advances in Neural Information Processing Systems (NeurIPS 2023)**

Khiem Le-Huy*, Kok-Seng Wong*, Manh Nguyen-Duc*, Long Ho-Tuan, Cuong Do-Danh, Danh Le-Phuoc
[An Empirical Study of Federated Learning on IoT-Edge Devices: Resource Allocation and Heterogeneity](#)
Under Review at **IEEE Transactions on Neural Networks and Learning Systems**

PUBLISHED

Khiem H. Le, Hieu H. Pham, Thao BT. Nguyen, Tu A. Nguyen, Tien N. Thanh, Cuong D. Do
[Enhancing Deep Learning-Based 3-Lead ECG Classification With Heartbeat Counting and Demographic Data](#)
IEEE-EMBS Conference on Biomedical Engineering and Sciences (IECBES 2022)

Khiem H. Le, Hieu H. Pham, Thao BT. Nguyen, Tu A. Nguyen, Tien N. Thanh, Cuong D. Do
[LightX3ECG: A Lightweight and Explainable Deep Learning System for 3-Lead Electrocardiogram Classification](#)
Biomedical Signal Processing and Control

Khiem H. Le*, Tuan V. Tran*, Hieu H. Pham, Hieu T. Nguyen, Tung T. Le, Ha Q. Nguyen
[Learning From Multiple Expert Annotators for Enhancing Anomaly Detection in Medical Image Analysis](#)
IEEE Access

Cuong V. Nguyen, [Khiem H. Le](#), Anh M. Tran, Quang H. Pham, Binh T. Nguyen
[Learning for Amalgamation: A Multi-Source Transfer Learning Framework for Sentiment Classification](#)
Information Sciences

ACHIEVEMENTS

Salutatorian	VNUHCM-US Entrance Exam 2017
Gold Medalist	20 th Vietnam Southern Mathematical Olympiad for High School Students 2015

LANGUAGES

Vietnamese	Native
English	IELTS 6.5 (Overall)

REFERENCES

Kok-Seng Wong, Ph.D	Associate Professor College of Engineering and Computer Science, VinUniversity wong.ks@vinuni.edu.vn
Binh T. Nguyen, Ph.D	Associate Professor Department of Mathematics and Computer Science, VNUHCM-US ngtbinh@hcmus.edu.vn