

# Khien H. Le, B.Sc.

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## EDUCATION

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**B.Sc., Mathematics and Computer Science**

Sep 2017 - Sep 2021

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

**Thesis:** [Multi-Source Transfer Learning For Sentiment Classification](#) - GPA: 7.0/10.0

## RESEARCH EXPERIENCE

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**Research Assistant**

Jan 2023 - Present

[Information Security Lab](#)

VinUniversity

- *Federated Learning and Internet of Things*  
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.
- *Federated Domain Generalization*  
Develop an efficient Federated Learning algorithm to comprehensively distill domain-invariant representation, enabling the global model robust to data distribution shift.

**Research Assistant**

Jan 2022 - Dec 2022

[VinUni-Illinois Smart Health Center](#)

VinUniversity

- *ECG-Based Arrhythmia Detection*  
Develop an accurate, lightweight, and explainable Deep Learning system to identify 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*  
Design a training strategy to take advantage of the existence of 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 to tackle the shortage of available annotated data for the Vietnamese sentiment classification task.

## RESEARCH PUBLICATIONS

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Khien 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)**

Kok-Seng Wong\*, Manh Nguyen-Duc\*, Khien Le-Huy\*, 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 Internet of Things Journal**

Khien 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**

## ***TEACHING***

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**Academic Mentor** Jan 2023 - Present  
[FPT FUNiX](#)

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

## ***ACADEMIC ACHIEVEMENTS***

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**Salutatorian** VNUHCM-US Entrance Exam 2017  
**Gold Medal** 20<sup>th</sup> Vietnam Southern Mathematical Olympiad for High School Students 2015

## ***REFERENCES***

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**Kok-Seng Wong, Ph.D** Associate Professor  
College of Engineering and Computer Science, VinUniversity  
[wong.ks@vinuni.edu.vn](mailto:wong.ks@vinuni.edu.vn)

**Binh T. Nguyen, Ph.D** Associate Professor  
Department of Mathematics and Computer Science, VNUHCM-US  
[ngtbinh@hcmus.edu.vn](mailto:ngtbinh@hcmus.edu.vn)