

# Khiem Le-Huy, 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](#) - **Advisor:** [Binh Nguyen-Thanh](#)

## RESEARCH EXPERIENCE

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**Research Assistant**

Jan 2022 - Present

[College of Engineering and Computer Science](#)

VinUniversity

- *Federated Learning and Internet of Things*  
Conduct extensive experiments on a large network of IoT devices in an empirical study to understand behaviors of federated learning algorithms in real-world settings.  
Develop an effective federated learning algorithm for comprehensive domain-invariant representation learning, enabling the global model robust to distributional shift.
- *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 - Sep 2021

[Medical Imaging Department](#)

VinBigData

- *Abnormality Detection on Chest Radiographs*  
Take advantage of the existence of multiple 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*  
Address the challenge of low-resource language for the Vietnamese sentiment classification task by exploring the multi-source transfer learning field.

## RESEARCH PUBLICATIONS

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[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)*

[Kok-Seng Wong\\*](#), [Manh Nguyen-Duc\\*](#), [Khiem 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*

[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**

## ***TEACHING***

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

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

## ***ACADEMIC ACHIEVEMENTS***

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<b>Salutatorian</b>	VNUHCM-US Entrance Exam 2017
<b>Gold Medal</b>	Vietnam Southern Mathematical Olympiad for High School Students 2016

## ***REFERENCES***

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<b>Kok-Seng Wong, Ph.D</b>	Associate Professor College of Engineering and Computer Science, VinUniversity <a href="mailto:wong.ks@vinuni.edu.vn">wong.ks@vinuni.edu.vn</a>
<b>Binh Nguyen-Thanh, Ph.D</b>	Associate Professor Department of Mathematics and Computer Science, VNUHCM-US <a href="mailto:ngtbinh@hcmus.edu.vn">ngtbinh@hcmus.edu.vn</a>