Khiem Le-Huy, B.Sc.

Date of birth: 28-01-1999 **Address:** Hanoi, Vietnam
E-mail: lhkhiem28@gmail.com **Homepage:** https://lhkhiem28.github.io

EDUCATION

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

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

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

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

Salutatorian VNUHCM-US Entrance Exam 2017
Gold Medal 20^{th} Vietnam Southern Mathematical Olympiad for High School Students 2016

REFERENCES

Kok-Seng Wong, Ph.D Associate Professor
College of Engineering and Computer Science, VinUniversity
wong.ks@vinuni.edu.vn

Binh Nguyen-Thanh, Ph.D Associate Professor
Department of Mathematics and Computer Science, VNUHCM-US
ngtbinh@hcmus.edu.vn