# Khiem H. Le (B.Sc.)

## PERSONAL INFORMATION

**Research Assistant**
VinUniversity, Hanoi, Vietnam
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Google Scholar: https://bit.ly/3sw7e61

## EDUCATION

**Bachelor of Science (Honours) - Major: Mathematics**                 Sep 2017 - Sep 2021
Faculty of Mathematics and Computer Science, VNUHCM - University of Science
Graduation Thesis: Vietnamese Sentiment Classification Using Deep Learning Methods

## RESEARCH EXPERIENCE

**Research Assistant**                 Jan 2023 - Present
Security and Artificial Intelligence Lab                 VinUniversity

- *Project: Federated Domain Generalization*
  Study the domain generalization problem under the federated learning setting
- *Project: Federated Learning for Internet of Things*
  Explore challenges and practicalities of federated learning for IoT applications

**Research Assistant**                 Jan 2022 - Dec 2022
VinUni-Illinois Smart Health Center                 VinUniversity

- *Project: ECG-Based Heart Arrhythmia Detection*
  Automatically identify abnormal heart rhythms based on reduced-lead electrocardiograms

**Research Intern**                 Oct 2020 - Dec 2021
Smart Health Center at VinBigData                 VinBigData Institution

- *Project: Abnormality Detection on Chest Radiographs*
  Automatically localize and classify thoracic abnormalities from chest X-ray scans

**Research Intern**                 Jan 2020 - Sep 2020
Artificial Intelligence Solution for Industrial Applications Research Lab                 VNUHCM - University of Science

- *Research Group: Vietnamese Natural Language Processing*
  Extract insights from text data and automate customer support

## TEACHING EXPERIENCE

**Academic Mentor**                 Jan 2023 - Present
FPT FUNiX

- *Machine Learning Certification*

**Teaching Assistant**                 Apr 2023 - Present
College of Engineering and Computer Science, VinUniversity

- *Introduction to Programming (COMP1010)*
- *Undergraduate Research Opportunities Program (UROP)*

## SELECTED PUBLICATIONS

*SUBMITTED/UNDER REVIEW*

**Khiem Le-Huy**, Long Ho-Tuan, Cuong Do-Danh, Danh Le-Phuoc, Kok-Seng Wong
Comprehensive Domain-Invariant Representation Learning for Federated Domain Generalization
**Submitted to International Conference on Artificial Intelligence and Statistics (AISTATS 2024)**

GT Do, **KH Le**, TT Nguyen, QH Pham, BT Nguyen, TN Doan, C Liu, R Savitha, X Li, SCH Hoi
CompeteSMoE - Effective Training of Sparse Mixture of Experts via Competition
**Submitted to International Conference on Learning Representations (ICLR 2024)**

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 via HyperNetwork
**Submitted to Empirical Methods in Natural Language Processing (EMNLP 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
**Submitted to 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**

## STUDENT ACHIEVEMENTS

**Salutatorian**      VNU-HCM University of Science Entrance Exam 2017
**Gold Medalist**      $20^{th}$ Vietnam Southern Mathematical Olympiad for High School Students 2015

## LANGUAGES

**Vietnamese**      Native
**English**      IELTS Overall Score: 6.5

## REFERENCES

**Binh T. Nguyen, Ph.D**      Associate Professor
Faculty of Mathematics and Computer Science, VNUHCM - University of Science
ngtbinh@hcmus.edu.vn

**Kok-Seng Wong, Ph.D**      Associate Professor
College of Engineering and Computer Science, Vinuniversity
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