Ha Le

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I am a Ph.D. candidate in Computer Science (HCI) at Northeastern University. My research focuses on real-time, context-aware activity recognition through multimodal sensing and human-in-the-loop annotation. I develop systems that combine user input with passive sensing and LLMs to improve labeling accuracy, personalize models, and enable proactive health interventions.

Education

2022 - now **Ph.D., Computer Science**
Northeastern University
Advisors: Stephen Intille and Varun Mishra

2018 - 2022 **BS, Mathematics and Computer Science**
Gustavus Adolphus College

Experience

2022 - now **Graduate Research Assistant**, Northeastern University
Built human-AI collaborative activity annotation systems on Android mobile and wearable devices to lower user cognitive burden and improve annotation accuracy. Developed a new method for sampling speech-based experience that yields ***12 times*** more data than the traditional method used in health and behavioral science studies. Led publications in HCI and health venues.

2021 - 2022 **Research Assistant**, Gustavus Adolphus College
Analyzed student participation and success in Calculus courses, revealing that consistent progress was linked to higher grades, and identified distinct student groups based on activity patterns, resulted in a journal publication.

May - Dec 2021 **Data Engineer Intern**, FPT Software
Implemented machine learning models that can effectively model the Vietnamese trading market and make buy/sell recommendation. Implement and fine-tune an OCR model to extract tabular data from pdf files, increasing the accuracy by 13% from the off-the-shelve models.

Publications

[P1] A. Choube, **H. Le**, J. Li, K. Ji, V. Das Swain, and V. Mishra. “GLOSS: Group of LLMs for Open-Ended Sensemaking of Passive Sensing Data for Health and Wellbeing”. In: Proceedings of the

ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 9.3 (2025), pp. 30. DOI: 10.1145/3749474.

[P2] **H. Le**, A. Choube, D. S. Vedant, V. Mishra, and S. Intille. "A Multi-Agent LLM Network for Suggesting and Correcting Human Activity and Posture Annotations". In: *Companion of the 2025 on ACM International Joint Conference on Pervasive and Ubiquitous Computing*. 2025, pp. 6. DOI: 10.1145/3714394.3756185.

[P3] **H. Le**, V. Potter, A. Choube, R. Lakshminarayanan, V. Mishra, and S. Intille. "A Context-Assisted, Semi-Automated Activity Recall Interface Allowing Uncertainty". In: Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 9.4 (2025), pp. 33.

[P4] **H. Le**, V. Potter, R. Lakshminarayanan, V. Mishra, and S. Intille. "Feasibility and Utility of Multimodal Micro Ecological Momentary Assessment on a Smartwatch". In: CHI Conference on Human Factors in Computing Systems (CHI '25) (2025). DOI: 10.1145/3706598.3714086.

[P5] V. Potter, **H. Le**, U. H. Syeda, S. Intille, and M. A. Borkin. "An Evaluation of Temporal and Categorical Uncertainty on Timelines: A Case Study in Human Activity Recall Visualizations". In: *In 2025 IEEE Visualization and Visual Analytics*. VIS'25. IEEE, 2025.

[P6] R. Lakshminarayanan, A. Uppal, **H. Le**, J. Spilsbury, and S. Intille. "Detecting Sleep Disruptions in Adolescents Using Context-Sensitive Ecological Momentary Assessment: A Feasibility Study". In: *Proceedings of the 18th EAI International Conference on Pervasive Computing Technologies for Healthcare*. New York, NY, USA: ACM, 2024, pp. 1–12. DOI: 10.1007/978-3-031-85572-6_20.

[P7] **H. Le**, R. Lakshminarayanan, J. Li, V. Mishra, and S. Intille. "Collecting Self-Reported Physical Activity and Posture Data Using Audio-Based Ecological Momentary Assessment". In: Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 8.3 (2024), pp. 1–35. DOI: 10.1145/3678584.

[P8] J. Ford, R. Erickson, **H. Le**, K. Vick, and J. Downey. "Relating Consistent Improvement to Overall Performance in a Calculus I Course That Utilizes Standards-Based Grading". In: PRIMUS 34.8 (2024), pp. 792–804. ISSN: 1051-1970, 1935-4053. DOI: 10.1080/10511970.2024.2361374.

[P9] R. L. Carey, **H. Le**, D. L. Coffman, I. Nahum-Shani, M. Thirumalai, C. Hagen, L. A. Baehr, M. Schmidt-Read, M. S. R. Lamboy, S. A. Kolakowsky-Hayner, R. J. Marino, S. S. Intille, and S. V. Hiremath. "mHealth-based Just-in-Time Adaptive Intervention to Improve the Physical Activity Levels of Individuals with Spinal Cord Injury: Protocol for a Randomized Controlled Trial". In: JMIR Research Protocols 13 (2024), pp. e57699. ISSN: 1929-0748. DOI: 10.2196/57699.

[P10] J. Hester, **H. Le**, S. Intille, and M. Erin. "A Feasibility Study on the Use of Audio-Based Ecological Momentary Assessment with Persons with Aphasia". In: *The 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23)*. 2023, pp. 7. DOI: 10.1145/3597638.3608419.

[P11] **H. Le**, J. Wu, L. Yu, and M. Lynn. *A Study on Channel Popularity in Twitch*. 2021. DOI: 10.48550/arXiv.2111.05939. arXiv: 2111.05939 [cs].

Press Coverage

2024 *Feasibility and utility of multi- modal micro ecological momentary assessment on a smartwatch*
Khoury College of Computer Sciences, Northeastern University

Awards & Recognitions

2022 *Distinguished Contribution to the Department of Mathematics, Statistics and Computer Science, Gustavus Adolphus College*

Service

Reviewing PACM CHI (2025), CHI LBW (2025), PACM IMWUT (2025), IWSC (2025)

Organizing

- Student Volunteer - CHI 2025, Ubicomp 2025
- HCC Area Representative, Northeastern University Open Hourse, 2024-2025

Miscellaneous

Skills & Interests Human-Computer Interaction, Ubiquitous Computing, Social Computing, Context-Aware Technologies, Behavioral Analysis, Machine Learning, Statistical Modeling, Experience Sampling
Tools & Programs C, C#, Java, Android, Python, R, Django, Flask, MySQL, MongoDB, JS, Vue
Languages English, Vietnamese