

NGUYEN K. HOANG

Urbana, IL • 217-819-8582 • nkhoang2@illinois.edu • in.hknguyen20 • github.com/nguyenkhoihoang

EDUCATION

University of Illinois Urbana-Champaign (UIUC)

Illinois, US

M.S. in Computer Science (Thesis), Advisor: Professor Dilek Hakkani-Tur

Expected 2027

Courses: *Advanced topics in Natural language processing, Applied machine learning, Conversational AI*

VinUniversity

Hanoi, Vietnam

B.Sc. in Computer Science

2020 – 2024

Specialization: *Applied natural language processing*

Courses: *Natural language processing (A), Data mining & Big data (A-), Artificial intelligence (A-)*

PUBLICATIONS

NK Hoang, Y.-J. Sun, C Gui, T.-A. Hsu, W.-S. Lu, A Deora, S Mehri, QXN Truong, KD Doan, D Hakkani-Tur, “PSI-bench: Evaluating Behavioral and Linguistic Fidelity in LLM-based Mental Health Patient Simulators”. 2025 *In preparation*

H Wang, N Prakash, **NK Hoang**, MS Hee, U Naseem, R KW Lee. "Prompting large language models for topic modeling". 2023 *IEEE International Conference on Big Data (IEEE BigData 2023)*

N Prakash, H Wang, **NK Hoang**, MS Hee, R KW Lee. "Promptmtopic: Unsupervised multimodal topic modeling of memes using large language models". *Proceedings of the 31st ACM International Conference on Multimedia (MM '23)*

MS Hee, A Kumaresan, **NK Hoang**, N Prakash, R Cao, R KW Lee. "Matk: The meme analytical tool kit". *Proceedings of the 31st ACM International Conference on Multimedia, Track Open Source (MM23OSC)*

WORK EXPERIENCES

Conversational AI Lab, UIUC

Illinois, U.S.

Research Assistant

Jun 2025 – Present

- Leading a team of 6 to conduct research on: (1) Optimizing LLMs for simulating mental health patients for clinical training. (2) Designing novel automatic evaluation metrics to quantify simulation realism against real patient conversations.

FPT Software AI Center

Hanoi & HCM City, Vietnam

AI Engineer

Jul 2024 – Apr 2025

- Built an all-in-one HR workflow automation platform leveraging LLMs and smart search that can:
 - (1) Autogenerate role-specific job descriptions and streamline CV-role matching, cutting recruitment workload by 76%.
 - (2) Integrate a FAQ bot with advanced retrieval augmented generation to answer new employees' queries.
 - (3) Integrate an adaptive conversational survey bot with personalized questions, x5 employee feedback participation.

Social AI Studio, Singapore University of Technology and Design

Singapore

NLP Research Intern

Feb – Jul 2023

- Researched a novel topic modeling method that surpassed SOTA models, resulting in **publications** in ACMMM, IEEE Bigdata.
- For text-based and multimodal datasets: implemented topic modeling baselines and comprehensive evaluations, applied image feature extraction and informal text preprocessing techniques.

AWARDS & ACHIEVEMENTS

VinUni-Illinois Smart Health Center Fellowship, Vingroup Scholarship Foundation

2025-2026

Covers tuition, living expenses, and roundtrip tickets for one school year

Machine Learning Engineer with Microsoft Azure nanodegree certificate, Udacity

2024

SEED Scholarship, Government of Canada

2023

\$10,200 CAD for one exchange semester at University of Toronto

BME-IDEA International E-Team Grant, Venturewell

2022

\$12,950 USD for project Nemo Belt – A home-based pregnancy monitoring system

SKILLS

- **Core Expertise:** natural language processing, LLMs, machine learning, deep learning, retrieval-augmented generation (RAG), topic modeling, smart search, data mining, relational database, web development
- **Frameworks, Libraries, Tools:** git, numpy, pandas, pytorch, scikitlearn, transformers, huggingface, langchain, langgraph, Azure, vLLM, wandb, Docker, FastAPI, faiss, PostgreSQL
- **Interests:** Conversational AI, health AI, user simulation, topic modeling, natural language processing, smart search