

NGUYEN K. HOANG

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EDUCATION

University of Illinois Urbana-Champaign (UIUC)	Illinois, US
M.S. in Computer Science (Thesis), Advisor: Professor Dilek Hakkani-Tur	Expected 2027
<i>Courses: Advanced topics in Natural language processing, Applied machine learning, Conversational AI</i>	
VinUniversity	Hanoi, Vietnam
B.Sc. in Computer Science	2020 – 2024
<i>Specialization: Applied natural language processing</i>	
<i>Courses: Natural language processing (A), Data mining & Big data (A-), Artificial intelligence (A-)</i>	

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, RKW 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, RKW Lee. "Prompttopic: 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, RKW Lee. "Matk: The meme analytical tool kit". *Proceedings of the 31st ACM International Conference on Multimedia, Track Open Source (MM23OSC)*

WORK EXPERIENCES

<u>Conversational AI Lab</u>, UIUC	Illinois, U.S.
Research Assistant	Jun 2025 – Present
<ul style="list-style-type: none">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.	
<u>FPT Software</u> AI Center	Hanoi & HCM City, Vietnam
AI Engineer	Jul 2024 – Apr 2025
<ul style="list-style-type: none">Built an all-in-one HR workflow automation platform leveraging LLMs and smart search that can:<ul style="list-style-type: none">(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.	
<u>Social AI Studio</u>, Singapore University of Technology and Design	Singapore
NLP Research Intern	Feb – Jul 2023
<ul style="list-style-type: none">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	
<u>Machine Learning Engineer with Microsoft Azure</u> 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