

Khoa Le

Athens, GA 30606

(706)-461-6521

khoale_nd@outlook.com

<https://www.linkedin.com/in/khoalend/>

EDUCATION

University of Georgia

Master of Science (MS) in Computer Science
Non-Thesis

Athens, Georgia
Expected May 2026
GPA:4.00/4.00

University of Georgia

Bachelor of Science (BS) in Computer Science
Summa Cum Laude, First Honors Graduate

Athens, Georgia
May 2024
GPA:4.00/4.00

RESEARCH INTERESTS

- Large Language Models: Multimodal Foundation Models, Applied LLMs
- Biomedical Image Analysis: fMRI and fNIRS-based Brain Decoding, AI for Healthcare
- Agentic AI: Multi-Agent Systems, Prompt Engineering
- Quantum AI: Quantum Neural Networks, Parameterized Quantum Circuits

SKILLS

- **Programming Languages:** Python, Java, C/C#, HTML, CSS, JavaScript, SQL
- **Tools:** ChatGPT, AWS, GitHub, Copilot, Emacs, VSCode, Cursor, Gemini, Google Colab, Docker
- **Frameworks:** Flask, Express, Node, React, Next, Tailwind, Spring Boot
- **Databases:** MySQL, PostgreSQL, MongoDB, DynamoDB, Neo4j
- **Machine Learning:** PyTorch, TensorFlow, scikit-learn, Hugging Face, OpenCV, OpenAI API, PennyLane

RESEARCH EXPERIENCE

School of Computing, University of Georgia

Research Assistant, Supervised by Dr. Jin Lu and Dr. Taotao Wu

Athens, Georgia
January 2025 - Present

Topic: fNIRS-to-Image reconstruction

- Implementing a deep learning model using PyTorch to convert fMRI and fNIRS signals into images, achieving early reconstruction outputs that preserve semantic structure and visual similarity
- Conducting literature reviews to replicate recent works, successfully reproducing 3+ state-of-the-art models, and processing 250GB+ of neuroimaging data

Heterogeneous Robotics (HERO) Lab, University of Georgia

Research Assistant, Supervised by Dr. Ramviyas Parasuraman

Athens, Georgia
January 2025 - Present

Topic (Non-Thesis Project): The effect of different robot sizes, with varying sound stimuli, light intensities, and bird age on the fleeing distance of broiler chickens within a production cycle

- Configuring an autonomous rover robot with ROS 2 Humble and RTAB-Map, enabling real-time mapping and navigation in poultry farms
- Scaling a research paper's wireless localization method leveraging RSSI (Received Signal Strength Indicator) data, optimizing multi-node communication, and improving localization accuracy in real-world poultry farm conditions

School of Computing, University of Georgia

Student, Supervised by Dr. Tianming Liu for Biomedical Image Analysis course

Athens, Georgia
January 2025 - Present

Topic: Quantum-Augmented fMRI-to-Image Reconstruction

- Developing a hybrid quantum-classical computational framework that integrates variational quantum circuits with fMRI reconstruction algorithms, with early results showing improved latent representation quality and more stable convergence compared to classical baselines.

- Investigating the efficacy of quantum neural network architectures in modeling high-dimensional fMRI activations to generate semantically rich latent neural representations

School of Computing, University of Georgia

Research Assistant, Supervised by Dr. Jin Lu

Athens, Georgia

August 2024 - January 2025

Topic: Neuron and dendrite segmentation on *C. elegans*

- Engineered an image processing pipeline to segment 10,000+ images of neurons and dendrites of *C. elegans*, achieving accurate structural separation using intensity-based profiling and feature contrast mapping.
- Automated preprocessing with Python and OpenCV (noise filtering, edge detection, thresholding), significantly improving image clarity and segmentation accuracy

School of Computing, University of Georgia

Undergraduate Researcher, Supervised by Dr. Ismailcem Budak Arpinar

Athens, Georgia

January 2024 - May 2024

Topic: Enhance Covid-19 information reliability provided by LLMs through Knowledge Graph

- Utilized a curated knowledge graph sourced from trusted authorities to validate COVID-19 responses from LLMs
- Deployed a Chrome extension that updates the Neo4j COVID-19 knowledge graph in real time, enhancing the reliability of LLM-generated medical answers

PUBLICATIONS

- Jabin, M.A., **Le, K.**, Liu, T., Zhao, L. *MSM-Mem: A Medical Structured Multimodal Memory Framework for Self-Evolving Medical AI Agents*. Submitted to ACL, 2026.
- Le, Kiet; **Le, Khoa**; Le, Nghi. *Prediction Markets as Mechanisms for Price Discovery and Market Efficiency*. Poster accepted at AICI 2026.
- Henry, K., Murray, B., Zhao, X., Blotske, K., Gao, Y., Smith, B., **Le, K.**, Smith, S. E., Barreto, E. F., Bauer, S., Sohn, S., Liu, T., Bennett, T. D., Cohen, M., Abdunour, R.-E. E., Liu, F., Sikora, A., Clifton, D. A., & Zhou, H. (2026). *Drug or Pokemon? An analysis of the ability of large language models to discern fabricated medications*. medRxiv. <https://doi.org/10.64898/2026.01.12.26343930>

CONFERENCE PRESENTATIONS

- Tran S., **Le K.**, Mishra T., Na O. (2023, November 16). *Knowledge-enhanced Large Language Models* [Poster presentation]. Presented at: Inaugural School of Computing Research Day, Georgia Center, The University of Georgia, Athens, GA.
- **Le K.**, Parasuraman R. (2026, April 10). *Instantaneous Wireless Robotic Node Localization for Rover Robots* [Poster presentation]. Presented at: Inaugural School of Computing Research Day, Georgia Center, The University of Georgia, Athens, GA.
- **Le K.**, Lu J.(2026, April 10). *Decoding Images from Brain Signals: A Functional Near-Infrared Spectroscopy Approach* [Poster presentation]. Presented at: Inaugural School of Computing Research Day, Georgia Center, The University of Georgia, Athens, GA.

TEACHING EXPERIENCE

School of Computing, University of Georgia

Graduate Teaching Assistant

Athens, Georgia

August 2024 - May 2025

Courses: Systems Programming, Computer Architecture and Organization

- Assisted in teaching two undergraduate-level sections (50+ students total), covering core topics such as C programming, process control, system design, Assembly, and more
- Delivered weekly lab sessions to reinforce lecture concepts and cover lab assignments through live coding examples, tutorials, and Q&A discussions
- Provided detailed feedback on projects and exams, helping students improve technical clarity and coding practices
- Provided one-on-one support through office hours and online discussions, guiding students through course concepts and coding challenges

School of Computing, University of Georgia

Undergraduate Teaching Assistant

Athens, Georgia

August 2022 - May 2024

Courses: Introduction to Computing and Programming, Systems Programming, Data Structures

- Assisted in instructing introductory and intermediate computer science courses with 100+ students per semester, covering Java and C programming
- Led weekly office hours and online Q&A sessions, helping students clarify concepts and resolve technical issues
- Graded programming assignments, lab exercises, and exams, offering detailed feedback to support student learning

WORK EXPERIENCE

YamLive

Ho Chi Minh, Vietnam

Site Reliability Engineer Intern

June 2024 - August 2024

- Performed Blue/Green deployment on a new Amazon EKS cluster using Terraform and Helm Charts, reducing application downtime by 40% and ensuring seamless production rollouts
- Deployed testing pods on the new Kubernetes cluster, conducting performance tests and health checks to ensure cluster stability and functionality, resulting in a 20% improvement in system reliability

Classic City Computing

Athens, Georgia

Software Developer Intern

January 2024 - May 2024

- Created a Python script leveraging NLP-based sequence matching to detect and remove duplicate entries from CSV files, resulting in the elimination of 1,000+ redundant records and improving data accuracy by 50%
- Integrated USPS API to validate and clean address data for 20,000+ entries, which standardized records and significantly reduced address-related issues

PROJECT EXPERIENCE

Supa Idle

<https://github.com/SpicyNachos03/ugahacks-11>

Winner in the Cox Automotive Challenge, UGAHacks II

February 2026

- Led backend and modeling development of an AI-driven sustainability platform that leverages federated learning and edge-cloud synergy to offload data center workloads to idle edge devices, reducing projected cooling and energy costs.
- Built a Flask-based inference service that ingests geospatial and environmental features, performs multi-stage energy estimation, and computes constrained weighted allocation of offloadable kWh across heterogeneous device classes
- Developed and trained a custom energy optimization model in Google Colab (Python, NumPy, scikit-learn), implementing capacity-aware allocation logic, safety scaling constraints, and real-time inference integration with a React dashboard

Sona

<https://github.com/josephvu10/UGAHacksX>

3rd place in the Piñata Challenge, UGAHacks X

February 2025

- Built a generative art and music website that allows users to create music, images, and titles from text prompts to foster creativity and cross-cultural connection
- Engineered the back-end infrastructure using Node.js, Pinata, and three generative AI APIs (Beatoven.ai, Gemini, StabilityAI), handling API integrations, file storage for 1000+ generated assets, and seamless communication with the Next.js front-end

Cinema E-Booking System

<https://github.com/Darren-Tham/Cinema-E-Booking-System>

Software Engineering Final Project

May 2024

- Spearheaded a team of 5 in building a full-stack cinema booking system, utilizing technologies such as Next.js, Tailwind, Spring Boot, Docker, and MySQL
- Implemented cookie-based authentication and authorization using JWT and structured the application's infrastructure following the MVC pattern
- Facilitated daily scrum meetings to provide status updates and assign tasks to team members, ensuring deadlines for deliverables were met
- Showcased the final project to an audience of 50+ students, explaining architecture, design decisions, and technical implementation

Watermarker

<https://github.com/lenhatdangkhoe/ugahacks9>

Adobe Express Add-Ons Winner

February 2024

- Designed an add-on for Adobe Express to protect intellectual property and content ownership with a single click
- Created Watermarker, an Adobe Express extension built with React that automatically generates and applies personalized watermarks onto the current project
- Awarded \$5,000 in development funding to expand and refine the add-on's functionality post-hackathon

MyTinerary

<https://github.com/chinmay314/hacks8>

1st place in the Piñata Challenge + Most Creative Use of Twilio API, UGAHacks 8

February 2023

- Developed MyTinerary, a personalized itinerary planning app that generates travel itineraries based on users' activity and location preferences using the YelpAPI, helping users discover relevant attractions and activities
- Designed an eye-pleasing user interface with a travel theme using React to encourage user engagement
- Implemented the Flask backend to parse Yelp JSON data and integrated the Twilio API to automatically send itineraries via SMS, enabling seamless real-time delivery to users' phones

HONORS AND AWARDS

Presidential Scholars

2021 - Present

- Awarded to students with a cumulative GPA of 4.0
- Terms Awarded: Fall 2021, Spring 2022, Summer 2022, Fall 2022, Spring 2023, Summer 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025

First Honors Graduate

May 2024

- Awarded to students graduating with a GPA of 4.0