Top Skills

Generative AI

Artificial Intelligence (AI)

Natural Language Processing (NLP)

Languages

French (Professional Working)

English (Full Professional)

Vietnamese (Native or Bilingual)

Certifications

Develop Your Skills with Large Language Models

Career Essentials in Software Development by Microsoft and LinkedIn

Become an AI Engineer

Career Essentials in Data Analysis by Microsoft and LinkedIn

Develop Your AI Prompt Engineering Skills

Honors-Awards

National Mathematics Competition

Publications

Fast convergence of inertial dynamics with Hessian-driven damping under geometry assumptions

Hao Hoang

AI Researcher and Software Engineer at Spartan
Vietnam

Summary

I am a passionate AI Engineer and Researcher in Applied Mathematics, specializing in Statistics, Mathematical Modeling, and Artificial Intelligence. With expertise in AI, machine learning, and deep learning, I focus on leveraging Large Language Models (LLMs) and cutting-edge technologies to solve real-world problems. Fluent in Vietnamese, English, and proficient in French, I thrive in collaborative, global environments and am committed to creating impactful AI solutions.

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Experience

Spartan
AI Researcher and Software Engineer
October 2023 - Present (1 year 8 months)
Los Angeles, California, United States

• Researched advanced retrieval methods (GraphRAG, LightRAG, PathRAG) for large-scale codebase understanding
• Designed an agentic system for automated and flexible code review tasks using LLMs
• Benchmarked performance across multiple models and architectures to evaluate LLM effectiveness in code review
• Built backend infrastructure and integrated AI services using Kotlin

• Applied computer vision techniques (detection, segmentation, retrieval) to interpret complex technical diagrams
• Enhanced image resolution and quality for downstream AI tasks
• Experimented with and integrated multiple Vision-Language Models (VLMs)
&
• Led AI knowledge-sharing initiatives and team bonding activities
• Supported hiring processes by interviewing candidates and advising the HR team

J.D. Power
Senior AI Engineer
October 2023 - March 2025 (1 year 6 months)
Los Angeles, California, United States

• Spearheaded research and implementation of PDF parsing techniques using Azure Document Intelligence, PDFPlumber, and PyMuPDF
• Designed and deployed scalable APIs and backend services in GCP using Kubernetes, Helm, and Terraform
• Integrated LangChain and LlamaIndex for RAG-based retrieval and generation
• Developed robust solutions to handle a wide range of automotive incentive PDF formats across OEMs (Toyota, Ford, VW, Hyundai, etc.)
• Managed AI-driven template generation pipeline and automated large-scale data extraction workflows
• Led sprint planning, Jira task management, and direct client communication for agile delivery

The International Society of Data Scientists
Research Assistant
March 2023 - March 2025 (2 years 1 month)
United States

• Researched LLM and NLP methods and mentored junior researchers on practical applications
• Developed a Vietnamese real estate chatbot for price prediction and user interaction
• Built deep learning models for risk analysis and market forecasting

Viettel Big Data Analytics Center
Data Scientist
January 2023 - December 2023 (1 year)
Hanoi Capital Region

• Built recommendation systems using collaborative filtering and content-based methods
• Developed ETL pipelines with Pentaho and PySpark to process large-scale data
• Created deep learning-based recommendation models such as REC-VAE for TV360

Kratos Defense and Security Solutions
Data Scientist
January 2022 - January 2023 (1 year 1 month)

• Focused on time series analysis and anomaly detection.

• Conducted motif discovery, anomaly detection, and time series summarization using Matrix Profile techniques.

INSA Toulouse - Institut National des Sciences Appliquées de Toulouse
Research Assistant
September 2019 - September 2022 (3 years 1 month)
Toulouse, Occitanie, France

• Advanced ML techniques: SVM, Random Forest, Neural Networks.

• Applied deep learning for anomaly detection (Autoencoders, GANs).

• Conducted signal processing and optimization research.

Toulouse Mathematics Institute
Research Intern In Optimization
June 2021 - September 2021 (4 months)
Toulouse

• Studied the convergence of inertial dynamics (Nesterov accelerated gradient).

• Analyzed optimization schemes with Lyapunov energy methods.

Hue College of Economics - Hue University
Engineering Intern
August 2017 - September 2018 (1 year 2 months)
Vietnam

• Programmed robotic car prototypes using Arduino.

• Worked on agricultural research and optical cable soldering.

Quang Binh Travel
Tourist Guide
May 2015 - May 2017 (2 years 1 month)
Đồng Hới, Quang Binh, Vietnam

• Assisted guests and managed travel arrangements.

• Acted as a local guide, handling communication and social media.

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Education

National Institute of Applied Sciences of Toulouse

Master's degree, Computational and Applied Mathematics · (August 2017 - September 2022)

Vo Nguyen Giap Gifted High School

Bachelor's degree, Mathematics · (August 2014 - June 2017)