

## Contact

[www.linkedin.com/in/hoang-van-hao](https://www.linkedin.com/in/hoang-van-hao) (LinkedIn)  
[vanhaohoang.github.io/](https://vanhaohoang.github.io/) (Portfolio)

## Top Skills

Retrieval-Augmented Generation (RAG)  
Kotlin  
Recommendation Systems

## 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.

## Experience

### Spartan

AI Researcher and Software Engineer  
October 2023 - Present (1 year 6 months)  
Los Angeles, California, United States

- Researched Code Review on Large Scale Repository using GraphRAG, LightRAG, and PathRAG to enhance prompts.
- Developed a LLMs platform using Kotlin.
- Collaborated remotely with a diverse team to innovate and implement cutting-edge solutions for AI projects.

### J.D. Power

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

- Optimized PDF parsing with libraries like Azure Document Intelligence, PDFPlumber, and PyMuPDF.
- Researched LLMs (GPT-3.5, GPT-4, Llama2) for task-specific solutions.
- Integrated tools like Lang Chain and Llama-index for enhanced performance.
- Managed infrastructure, utilizing tools like Helm, Terraform, Kubernetes, and GCP for efficient deployments.
- Built reusable components and automated workflows to streamline Data Processing and PDF Extraction.

- Designed and optimized backend APIs, improving performance and reliability for AI-powered applications.

## The International Society of Data Scientists

### Research Assistant

March 2023 - March 2025 (2 years 1 month)

United States

- Researched NLP techniques and LLMs; mentored students in LLM applications.
- Developed a Vietnamese real estate app with chatbots and price predictions.
- Built risk analysis models using deep learning and LLMs.

## Viettel Big Data Analytics Center

### Data Scientist

January 2023 - December 2023 (1 year)

Hanoi Capital Region

- Developed recommendation systems (content-based, collaborative filtering).
- Built ETL pipelines using Pentaho, Big Data, and PySpark.
- Created deep learning models like REC-VAE for TV360 recommendations.

## Kratos Defense and Security Solutions

### Data Scientist

January 2022 - January 2023 (1 year 1 month)

Labège, Occitanie, France

- 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)