

# Bhuribhat Ratanasanguanvongs

I am passionate about Data Science, specializing in Computer Vision and Machine Learning. Actively expanding my expertise in Natural Language Processing (NLP), with a focus on advanced techniques such as LLM fine-tuning and Retrieval-Augmented Generation (RAG). With a strong engineering background, I am dedicated to continuous learning and eager to apply my skills in the evolving fields of Data Science and Machine Learning.

## EXPERIENCE

### Junior Data Scientist

September 2024 - Present

Agnos Health

- Utilized open-source data visualization tools like Metabase and Redash to design and implement dashboards. Leveraged SQL and PostgreSQL to extract and analyze data, providing actionable insights and enhancing decision-making processes.
- Developed a predictive model using XGBoost Regressor, achieving a 50% improvement in Mean Squared Error (MSE) compared to the baseline.
- Designed and implemented a recommender system algorithm and API using Python and Django.

### Intern, Machine Learning Engineer

July 2023 - June 2023

Bit Studio

- Developed a recognition model for American Sign Language fingerspelling utilizing OpenCV, MediaPipe, and Transformer technology, Kaggle competition hosted by Google I/O 2023.
- Developed an advanced video-to-video with prompt control animation pipeline. Utilized generative models like stable diffusion in combination with the YOLO multi-pose estimation model.
- Finetuned Stable Diffusion model using Dreambooth, Textual Inversion, and LoRA.

## PROJECTS

### Domain-Specific Chatbot for Thai Language

August 2023 - 2024

Datamind Lab, Chulalongkorn University & NECTEC Thailand

- Developed a Thai law chatbot to answer questions accurately and precisely within specific and up-to-date Thai legal documentation, significantly reducing hallucinations in its responses.
- Developed Large Language Models (LLMs) and Retrieval-Augmented Generation (RAG) using LangChain with open-sourced LLMs such as Llama2-7B, SeaLLM-7B, and Typhoon-7B.
- Leveraged High-Performance Computing (HPC) for fine-tuning and inference, utilizing QLoRA to enhance the LLM's expertise in the Thai legal domain and improve its performance.
- Developed a prompt optimization to increase robustness and ensure the LLM follows instructions.
- Optimized inference runtime with TensorRT-LLM via Docker in linux environment.

## SKILLS

- Software knowledge: MS Office, Power BI, Tableau, Gephi
- Programming Languages: Python, Java, JavaScript, C++, Go, Scala, SQL
- Language: Thai (Native), English (CU-TEP 89/120)

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## EDUCATION

### Bachelor of Engineering, Computer Engineering

Chulalongkorn University  
2020-2024 - GPAX 3.32  
Second Class Honors

### Applied Science Program

Traim Udom Suksa School  
2017 - 2020 - GPAX 3.59

## CERTIFICATIONS

[Googal Data Analytics  
Specialization](#)

[IBM Data Engineering  
Professional](#)

[Neural Networks and Deep  
Learning](#)

[Convolutional Neural Networks](#)

## RELEVANT COURSEWORKS

- Software Engineering
- Software Define System
- Database Systems
- Statistics
- Data Science and Engineering
- Neural Network
- Pattern Recognition
- Computer Vision
- Digital Image Processing

## EXTRACURRICULAR ACTIVITIES

Teacher Assistant in NLP  
Individual Study, 2023

Individual Study PET-CT  
Brain Scan Sementic  
Segmentation, 2023

Member of CU Basketball  
Club, 2020 - 2021

Member of CU Game  
Developer Club, 2020