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AI ENGINEER

CONTACT INFORMATION

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SUMMARY

A passionate AI engineer specializing in Natural Language Processing (NLP) and Text Analysis. Proven expertise in developing practical AI solutions for text classification, chatbot development, and data-driven applications. Skilled at applying NLP techniques to solve real-world problems, delivering impactful and domain-specific innovations. Seeking opportunities to contribute to cutting-edge AI projects in the legal and business domains.

EDUCATION AND BACKGROUND

- FPT University
- Major: **Artificial Intelligence**
- Expected Graduation Date: 2025

EXPERIENCE

AI Engineer Intern - Gradient Technologies (01/2025 - Present)

Developing image processing models: Focus on exposure, brightness enhancement (image enhancement), and noise removal for high-resolution images.

Optimizing inference: Utilize **NVIDIA Triton**, **TensorRT**, and **Trim** to deploy and optimize model inference, ensuring real-time performance on GPUs.

Building end-to-end pipelines: Design workflows covering data collection, preprocessing (normalization, data augmentation), model training, and in-house deployment.

Researching and integrating: Apply advanced Machine Learning/Deep Learning techniques (CNN, UNet, GAN, etc.) to improve image quality, enhance detail, and reduce blurriness in low-light scenarios.

PROJECT EXPERIENCE

LegalBizAI - AI Chatbot for Legal Consultation

Problem: Lack of automated and accurate legal consultation systems.

Solution:

- Used **Retrieval-Augmented Generation (RAG)** framework alongside **fine-tuned Vistral 7B** and **Gemini language models** to build a highly accurate legal chatbot.
- Fine-tuned Vistral 7B on a **110k QA dataset** from Thu Vien Phap Luat.
- Applied embedding techniques such as **TF-IDF, BM25, and BGE-M3**.

Results:

- Achieved **95% accuracy** in user queries.
- Successfully tested in enterprise environments with positive feedback.

Text Classification for Sentiment Analysis on Movie Reviews

- Text Classification for Sentiment Analysis on Movie Reviews Problem: Sentiment analysis for IMDB movie reviews. Solution:

- Conducted extensive preprocessing including text cleaning, tokenization, and truncation to **200 tokens** for consistent input.
- Built a custom vocabulary of over **30,000 unique tokens** using **TorchText** and implemented positional encoding for **Transformer-based models**.
- Designed and developed a multi-layer Transformer-based classifier with attention mechanisms, achieving superior contextual understanding.
- Trained the model with an innovative curriculum learning approach, gradually increasing data complexity across epochs to enhance model generalization. Results:
- Achieved **92% accuracy** on the test dataset, outperforming existing baselines by 12%.
- Visualized attention weights to demonstrate the model's focus on sentiment-driving words, earning recognition for explainability.

Face Detection Using YOLOv5 on WiderFace Dataset (Exploratory Project)

Problem: Detecting faces in diverse environments.

Solution:

- Fine-tuned YOLOv5 model with preprocessed **WiderFace** dataset.
- Designed a real-time face detection demo using OpenCV.

Results:

- Achieved **89% mAP** on the test dataset.
- Demonstrated effective solutions in experimental settings.

CERTIFICATIONS

- IBM Full Stack Software Developer
- AI Foundations for Everyone – IBM
- Getting Started with Deep Learning – NVIDIA
- Building Real-Time Video AI Applications – NVIDIA
- Big Data – University of California, San Diego
- Disaster Risk Monitoring Using Satellite Imagery – NVIDIA

SKILLS

Natural Language Processing (NLP): Sentiment Analysis, Named Entity Recognition (NER), Text Classification, Topic Modeling, Language Modeling

Large Language Models (LLM): Fine-tuning, Prompt Engineering, LangChain, RAG

Programming: Python, SQL, R, PyTorch, TensorFlow, FastAPI, Keras

NLP Tools: Hugging Face, SpaCy, NLTK

Tools & Databases: Git, Docker, MongoDB

Big Data: Data Analytics, Data Engineering

Soft Skills: Problem-solving, quick learning, teamwork, research

HONORS & AWARDS

- TRS6 Certificate (Equivalent to IELTS 5.5) – FPT University

PERSONAL WEBSITE

ltnhotin.github.io