LOKE FU (He/Him)

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GitHub: https://github.com/lokefu/code_example | LinkedIn: https://www.linkedin.com/in/lokefu/

SUMMARY

Data Scientist specializing in Generative AI, Large Language Models, and Machine Learning. Proven ability to build and deploy advanced AI solutions, including high-accuracy (95%+) object detection pipelines, RAG-based chatbots, and text-to-image generation frameworks. Eager to apply deep learning expertise to solve complex business problems.

EDUCATION

The University of Hong Kong (HKU) | Hong Kong
Master of Science in Artificial Intelligence   2022 - 2024

The University of Hong Kong (HKU) | Hong Kong
Bachelor of Science in Statistical Decision Sciences (Decision Analytics)   2018 - 2022
- **Academic Award:** HKU Foundation Entrance Scholarships (4-year scholarship)
- **Exchange:** Harvard University, Massachusetts, U.S.   2019

PROFESSIONAL EXPERIENCE

Tictag Singapore (Hong Kong Office) | Hong Kong
Data Scientist   Nov 2024 - Present
- **Developed** a product recognition pipeline using object detection, segmentation, and an image retrieval embedding database, achieving **96% accuracy**.
- **Created** a text analysis tool using Google Gemini for structured output tagging, automating manual processes, and **boosting team productivity by 90%**.
- **Pioneered** an intelligent Q&A chatbot integrating RAG and LLMs (LangChain) on 1) web multi-modal database and 2) PDF documents supported by OCR capabilities for automated analysis.
- **Fine-tuned** world foundation models for downstream video classification, achieving **99% accuracy** for human action/interaction and **97%** for hand gestures.
- **Engineered** a Multi-Camera Multi-Object Tracking (MCMOT) system featuring advanced object detection and tracking, with 2D-plane visualization.
- **Applied** Multimodal LLMs with a Chain-of-Thought (CoT) approach to long-video comprehension, enabling event detection, video Q&A, and captioning.

Centre for Advances in Reliability & Safety (HK PolyU & University of Maryland) | Hong Kong
Data Scientist   Feb 2024 - Nov 2024
- **Won a Gold Medal** at the 49th International Exhibition of Inventions Geneva for the "Cable Prognosis" project, showcasing excellence in predictive modeling.
- **Developed** supervised and unsupervised machine learning models for fault detection, achieving **99% accuracy** in conjunction with physical simulation modeling.
- **Assisted** senior engineers in UI/UX development for commercial-grade reliability and safety applications.

The University of Hong Kong (HKU), School of Computing & Data Science | Hong Kong
Research Assistant (Master's Researcher)   Sep 2022 - Jan 2024
- **Designed and developed DreamMoRe**, a novel subject-driven Text-to-Image framework enhancing DreamBooth with Text Rewriting, Image Augmentation, and Multi-Modal Loss.
- **Achieved** state-of-the-art results, **surpassing DreamBooth** in both quantitative (CLIP) and qualitative (human) evaluations.
- **Implemented** prompt-tuning and instruction-tuning on LLMs to improve image caption quality and complex prompt comprehension.
- **Introduced** semantic control via CLIP to reinforce prompt and subject fidelity in generated images.

TECHNICAL SKILLS & LANGUAGES

- **Programming:** Python, R
- **ML/AI:** PyTorch, Hugging Face, TensorFlow, Scikit-learn, LangChain, NumPy, Pandas, Matplotlib
- **Data:** SQL, Spark, Hadoop, Power BI
- **Dev & MLOps:** Git, Docker, AWS, GCP, FastAPI, Gradio, HTML/CSS, JavaScript
- **Languages**: English (Proficient), Mandarin (Native), Cantonese (Conversational).