LIM ZHENG XUAN

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WORK EXPERIENCE

AI Singapore   **Jan 2024 – Oct 2024**
AI Apprentice (AIAP Batch #15)
- Analyzed business requirements for a grammar correction and error classification application, translating them into actionable technical specifications for development
- Formulated and developed data cleaning and feature engineering pipelines using Kedro to automate data preprocessing for downstream tasks, increasing data ingestion efficiency
- Developed an LLM-based solution for English grammar correction and multi-class error classification, consisting of 60 distinct error types
- Employed various Prompt Engineering techniques (e.g., Few Shot, Chain of Thought) using LangChain to steer LLMs towards generating desired outputs, improving error classification performance by 46%
- Implemented RAG architecture using Milvus vector database to integrate document retrieval methods, further increasing solution performance by 20%
- Achieved an additional 8% improvement in performance through fine tuning of LLMs using OpenAI SDK and hyperparameter tuning
- Mentored a group of 6 newer apprentices on machine learning concepts and good software practices to accelerate their learning experience in the programme

BioQuest Advisory   **Jul 2022 – Dec 2022**
Data Science Intern
- Executed maintenance works, including troubleshooting and process performance analysis, for a RPA project built using UiPath, ensuring high process reliability during production
- Developed a chatbot Proof-Of-Concept using a SaaS tool, followed by UAT sessions to ensure product meets the requirements of the client

National University Health System (NUHS)   **May 2022 – Jul 2022**
AI & Data Science Intern
- Built a RESTAPI service from scratch to carry out ETL processes using an enterprise-level data integration software to support a chatbot application
- Performed deployment of the RESTAPI service through Docker and Kubernetes in the test environment
- Collaborated in a team of 6 members following the Agile SCRUM framework to develop the chatbot application according to Sprint objectives

EDUCATION

National University of Singapore (NUS)
- Bachelor of Engineering with Honours (Distinction)
- Minor in Computer Science

PROJECTS

Fake Face Detection
- Achieved 60% test accuracy on fake face detection task by leveraging a pretrained InceptionResnet model with custom classifier head built using PyTorch
- Hosted the AI engine using a Python Flask application to facilitate efficient inferencing, streamlining the prediction process
- Implemented Explainability AI techniques (GradCAM) to improve model transparency and interpretability, enabling users to better understand AI predicted outputs

Mahjong Tile Detection
- Performed image augmentation on an image dataset using OpenCV to expand dataset by 10 times
- Trained a YOLOv7 model to accurately detect and classify 3 types of Mahjong tiles on images, videos and in real-time using webcam

SKILLS

Python | SQL | Java | Numpy | Pandas | Scikit-Learn | Matplotlib | TensorFlow | PyTorch | HuggingFace | Git | Docker | Kubernetes | Kedro | MLOps | Agile