LU Cheuk Fung Jeff | Email: jefflu707@gmail.com | Linkedin: www.linkedin.com/in/jeff-lu-2a27472b2 |
Personal Webpage: https://cfjeff.netlify.app/ | Github: https://github.com/jiffij

EDUCATION

Nanyang Technological University, Singapore   Aug 2023 – May 2024

Master of Artificial Intelligence (MSAI)

- CGPA: 4.65/5.0, Highest TGPA: 4.8/5.0

The Hong Kong University of Science and Technology   Sep 2019 - Jun 2023

Bachelor of Engineering - BE, Computer Engineering (CPEG)

- Second Class Honor, Division 1, CGPA: 3.293/4.3, MCGA: 3.438/4.3
- **Dean's List** for Semester 2, Academic Year 2022/2023

ACHIEVEMENTS

HKSAR Government Scholarship Fund - Endeavour Merit Award   June 2021

- Give recognition to students in the pursuit of excellence in academic.

Best Final Year Project Award - First Runner up   Jun 2023

- A Healthcare Mobile App for Patients – Dr. UST

PROJECTS

Best Final Year Project – Dr. UST

- Dr. UST is a groundbreaking telemedicine app, leveraging machine learning for efficient skin lesion diagnosis, enhancing accessibility for both medical staff and patients, particularly valuable during pandemics.

Image Panorama

- It is an implementation of Image-Panorama build from scratch using only NumPy. The algorithm basically includes Fast + Brief + Homography + RANSAC.

Trust Prediction

- This is an implementation of trust prediction by elevating self-evolving multilayer perceptron (seMLP), from scratch, on Capitaland Ascendas REIT prediction.

CSWin SlidingWindow

- This project introduces an alternative approach to the CSWin Transformer. The original model employs a Cross-Shaped Window self-attention mechanism and Locally Enhanced Positional Encoding (LePE). Our version enhances the multi-head attention mechanism by integrating a sliding window self attention mechanism method and increasing the number of splits, aiming to refine the attention process and boost efficiency.

PlantTraits prediction

- In this challenge, we build a VIT-MHA ensemble model for participating the PlantTraits2024 Challenge. The goal of the challenge is to predict the 6 plant traits most accurately. We ranked top 10% in Kaggle Leaderboard by the time of submission.

Personal Identity Information (PII) Classification

- I modified the architecture of the SHA-RNN model and leverage MobileBERT to classify Personal Identity Information (PII).

* Feel free to explore my personal webpage and GitHub for more details of projects I have done

WORK EXPERIENCES

PPIC Technologies   07-2024 - Now

AI Engineer

- Involved in building BeX AI platform.
- Build dynamic NLP chains and operations for the AI platform.
- Building Contextual Retrieval RAG system
- Helps to optimise AI response time.
- Taught a Data Fluency Diploma course.
- MLOps.

Information Technology Service Center (ITSC) in HKUST   06-2022 - 06-2023

Programmer

- Involved in building a facial recognition door lock system for the entire campus. My duties include a facial recognition pipeline (frontend and backend). For instance, building facial recognition model with feature extraction, setting up environment for face recognition with Jetson Nano, raspberry Pi 4 and Rock Chip, NFC card emulation, building connection between frontend and backend, training the face model on the local server side, building an android app for registering face with facial landmark, and controlling door lock system through hardware communication.

HKSAR Census and Statistic Department   07-2021 - 08-2021

Enumerator

- Visit and interview families.
- Record new changes to map.

SKILLS

Languages

- Cantonese, English, Mandarin

Programming Languages

- Python, C++, Java, JavaScript, R, SQL, HTML, Linux Shell Script, TypeScript

Frameworks & Tools

- **Backend**: Flask, Node.js, Django, Express.js, FastAPI, Firebase, Socket.io

- **Frontend**: React, React Native, Flutter, Three.js, React + TypeScript

- **Full-Stack Stacks**:

- o **MERN** (MongoDB, Express.js, React, Node.js)
- o **PERN** (PostgreSQL, Express.js, React, Node.js)
- o **FART** (FastAPI, React + TypeScript)
- **Machine Learning/AI**: TensorFlow, PyTorch, Keras, Transformers, LangChain, llama.cpp, Watsonx, OpenShift AI, Numpy, Scikit-learn, OpenCV, Pandas, NLTK, Gensim, spaCy
- **Databases**: MongoDB, Milvus, SQL, PostgreSQL, ElasticSearch, Neo4j
- **Other Tools**: Docker, OpenGL, Lucene, Kubernetes, Redis, RabbitMQ, Celery, Jenkins, GitHub, MLflow, TFX (TensorFlow Extended)

Cloud Platforms

- AWS (SageMaker, Lambda, EC2, S3), Google Cloud Platform (GCP), Microsoft Azure

DevOps & MLOps

- **DevOps**: Proficient in CI/CD pipelines (Jenkins), infrastructure as code (Terraform), container orchestration (Kubernetes), and monitoring tools (Grafana).
- **MLOps**: Expertise in model lifecycle management, versioning, and monitoring with TensorFlow Extended (TFX). Skilled in building automated workflows for deploying AI/ML models in production environments.

Mathematics

- Linear Algebra, Calculus, Probability & Statistics, Graph Theory, Optimization Theory, etc.

Specialized Skills

- **AI Integration**: End-to-end deployment of AI models in production (e.g., APIs, microservices, cloud-based systems)
- **Familiar with Machine Learning Architectures**:
  - o MLP, CNN, RNN, KNN, Transformer, Auto-Encoders, GAN, Reinforcement Learning, SVM, etc.
- **NLP Expertise**: Extensive experience with NLP tasks like summarization, sentiment analysis, question answering using Transformers (BERT, GPT, etc.).
- **Data Engineering**: Experience in building pipelines for data ingestion, transformation, and storage for AI workflows.
- **Graph Databases**: Expertise in Neo4j for knowledge graphs, graph-based recommendation systems, and graph-based data analysis.

Development Expertise

- Full-stack development for web and mobile applications
- Proficient in building AI-powered web apps with **MERN**, **PERN**, and **FART** stacks
- Experienced in integrating AI models with both frontend and backend systems
- Containerized deployments using Docker and orchestration with Kubernetes
- Implementing scalable solutions for AI and machine learning in cloud environments
- Hands-on experience in DevOps and MLOps workflows for managing and deploying AI systems effectively.

HOBBIES & INTERESTS

Travelling, Sports (Swimming, Bowling, Body Building, Skateboarding), Sculpting, Building Programs