

Jing Siang (Leon) Lin

MACHINE LEARNING ENGINEER

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Work Experience

Machine Learning Engineer at [ASUS AIoT](#)

Jul. 2021 - Dec. 2024

- EHS General Mission Framework | System Design
 - Led the refactoring of the EHS Mission Pipeline by redesigning the system architecture and data flow, strengthening role responsibilities, and defining clear interaction relationships between roles.
 - Assisted in designing the Event Engine's alert system by establishing clear boundaries and consistent representation for event.
- Mission Inference Optimization | Pytorch | TensorRT
 - By utilizing TensorRT, reimplementing preprocessing and postprocessing with PyTorch, and optimizing model inference tasks through multithreading, the maximum number of model inferences was increased under the condition of maximum tolerable latency. On the same hardware (NVIDIA T4), the number of supported cameras increased from X to Y, representing an improvement of Z
- EHS Scheduler | Python | Kubernetes | MongoDB
 - Collaborated on developing the EHS Scheduler for managing task scheduling, responding to inference service deployment requests from the EHS Portal, and handling Kubernetes resource management and scheduling.
- AI Agent Service | FastAPI | Azure AI | Pydantic
 - Developed a unified API interface using FastAPI, integrating third-party AI services such as Azure AI and Copilot, and validated the API interface with Pydantic.
- Machine Learning Algorithm Development | PyTorch | Detection | Pose Estimation
 - Designed and trained a new version of the Protective Personal Equipment (PPE) detection algorithm. Achieved a 34.22% improvement in accuracy, increasing mAP from 0.301 to 0.404 on the test dataset.
- Snoring Detection | C++ | PyTorch | TFLite
 - Collaborated with ASUS mobile device departments to develop a snoring detection algorithm with an accuracy of 94.12%. Exported the model to TFLite format and implemented spectrogram transformation in C++. Fine-tuned pretrained models to significantly enhance detection performance in high-noise environments.
- 3D Lung Nodule Segmentation | PyTorch | 3D Slicer
 - Developed lung nodule segmentation and classification algorithms in collaboration with a major hospital in Tainan. Achieved an average segmentation DSC of 0.7481 and classification accuracy of 91.84% on hospital test datasets. Additionally, developed a 3D Slicer plugin to assist the hospital in model inference and visualization of lung nodule predictions.
- EHS Demo Tool | Streamlit
 - Assisted in developing a lightweight frontend interface using Streamlit to quickly showcase EHS service applications in offline scenarios.

Projects

- LLM based Video Analysis
 - Implemented video analysis using a LongLLM model and deployed via Hugging Face.
- Spotify Chat
 - Collect audio using the Spotify API, converted it to text using the speech2text model, and deployed a service to let user chat and do content-related searching. Q&A.
- EHS Managing Agent
 - Deployed a custom AI Agent service combining prompts and RAG to execute actionable tasks. Integrated the solution with an API Gateway to enable quick ESH portal setups.

Education

National Chung Cheng University

Chayi, Taiwan

Master in Electrical Engineering

Sep. 2017 –Nov.2020

- Thesis: Prior guiding based multiple organ segmentation
- Graduated with second place in the department with an academic performance (GPA: 4.17/4.3)
- International exchange: Deggendorf University of Applied Sciences, Germany, and awarded the Ministry of Education's "Xuehai Feiyang" Scholarship

National Yunlin University of Science and Technology

Yunlin, Taiwan

Bachelor of Electrical Engineering

Sep. 2013 –Jun. 2017

Skills

Languages	Python, C/C++, Jave
Developer Tools	Git, Docker, Kubernetes, Azure AI
Software/Frameworks	Pytorch, TensorFlow, TensorRT, MLflow, DVC, Postman, GitLab