

Leon Lin 林敬翔

Machine Learning Engineer

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Work Experience

Machine Learning Engineer at [ASUS AIoT](#)

Jul. 2021 - Mar. 2025

- **EHS General Mission Framework** | Python | System Design
 - Led a team of **three** people to refactor the EHS Mission Pipeline by redesigning the system architecture and data flow, strengthening role responsibilities, and defining clear interaction relationships between roles.
 - Coordinated the workload across team members to ensure workplace efficiency. Responsible for recording the progress of team members' progress on a daily basis in addition to working with the project hands on.
 - Designed the Event Engine's alert system by establishing clear boundaries and consistent event representation.
- **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
 - Co-developed EHS Scheduler to manage mission scheduling requests from the EHS Portal, including schedule planning, Kubernetes resource management, and mission monitoring.
- **AI Agent Service** | Azure AI | Pydantic
 - Developed a unified API interface using FastAPI, integrating third-party AI services like Azure AI and Copilot, with API interface validation ensured through Pydantic.
- **Machine Learning Algorithm Development** | PyTorch | Detection | Pose Estimation
 - Designed and trained a new version of the Protective Personal Equipment (PPE) detection algorithm to help ensure workplace safety in TSMC factory. Achieved a 34.22% improvement in accuracy, increasing mAP from 0.301 to 0.404.
- **Snoring Detection** | C++ | PyTorch | TFLite
 - Developed a snoring detection algorithm using PyTorch, with spectrogram transformation implemented in C++, achieving 94.12% accuracy on the testing dataset. The model was exported to TFLite format for deployment on mobile devices.
- **3D Lung Nodule Segmentation** | PyTorch | 3D MaskRCNN | 3D Slicer
 - Developed lung nodule segmentation and classification algorithms by using 3D MaskRCNN. Achieved an average segmentation DSC of 0.7481 and classification accuracy of 91.84% on hospital test datasets.
 - Developed a 3D Slicer plugin to facilitate model inference and enable visualization of lung nodule predictions, enhancing user accessibility and interpretability.

Projects

- Microsoft Video Analysis Alternative
 - To address the high costs of Microsoft's cloud-based Video Analysis service, developed an alternative solution by implementing video analysis using a LongLLM model and deploying via Hugging Face.
- EHS Managing Agent
 - Created a custom AI agent service that simplifies the scheduling functionality and search capabilities in the EHS portal by combining prompts and RAG technology in an integrated API Gateway.

Education

Master in Electrical Engineering at [National Chung Cheng University](#)

Sep. 2017 – Nov. 2020

- Thesis: Prior guiding based multiple organ segmentation
- 4.17/4.3 GPA

International Exchange at [Deggendorf University of Applied Sciences](#)

Sep. 2019 – Feb. 2020

- Taiwan Ministry of Education International Education Exchange.

Bachelor of Electrical Engineering at [National Yunlin University of Science and Technology](#)

Sep. 2013 – Jun. 2017

Skills

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