Da-En Yu

kevinlego2009@gmail.com | linkedin.com/in/kevinyu0528 | (408) 203-3790

Summary

Machine Learning Engineer specializing in **Computer Vision**, with experience building CV models (**detection, 3D vision/reconstruction, medical imaging**) and implementing **production-oriented pipelines** for data processing, streaming, and inference optimization. Proficient in **Python and C++**, with hands-on experience using **PyTorch, TensorFlow, OpenCV**, and system tools including **Kafka, Spark Streaming, Redis, and NGINX**. Seeking Machine Learning Engineer (Computer Vision) roles focused on **reliable pipelines**, **efficient inference**, and **cross-functional collaboration**.

Education

Northeastern University — **San Jose, CA**
M.S. in Computer Science — 2023 – Dec. 2025

National Taiwan University of Science and Technology — **Taipei, Taiwan**
B.S. in Material Science and Engineering — 2016 – 2020

Experience

Garena Sea, Ltd. — **Taipei, Taiwan**
Backend Engineer — Jun. 2024 – Aug. 2024

- Designed and maintained **RESTful APIs** and backend services for analytics and data operations.
- Improved database performance and reliability using **MySQL** and **MongoDB**.
- Built a **streaming data pipeline** with **Apache Kafka** and **Spark Streaming** for low-latency analytics and ML workflows.
- Optimized service performance with **Redis** caching and **NGINX** load balancing.

ASE (Advanced Semiconductor Engineering) Global Group — **Taoyuan, Taiwan**
Customer Engineering Integration Engineer — Oct. 2020 – May. 2023

- Led **new product introduction (NPI)** and ramp-to-mass-production support using **SPC**, **DOE**, and structured root-cause analysis.
- Built **Python-based data processing tools** (NumPy, Pandas) for large-scale semiconductor test data, improving collection speed and accuracy.
- Developed **manufacturing quality monitoring** and **anomaly detection software** using **SVMs**.
- Integrated data tooling into IC packaging and testing workflows to improve **process visibility** and **data integration**.

Research Projects

Monocular to Stereo Video Reconstruction (Python) — Jan. 2025 – May. 2025

- Curated a **4D dataset** by fusing camera pose, disparity-based depth, and temporal tracking into dynamic point-cloud reconstructions.
- Improved reconstruction stability using **trajectory smoothing** and **SIFT mismatch rejection**.
- Extended **DUSt3R** with a **ViT encoder** and **cross-attention decoder** to predict time-aligned point clouds and scene flow.

Lung Nodule Detector (Python) — Jan. 2025 – Apr. 2025

- Fine-tuned a **ResNet** model on lung CT scans, achieving **93.8% accuracy** on nodule identification.
- Implemented a **U-Net-based segmentation pipeline** for precise lung nodule localization.
- Reduced false positive rate from **20% to 7%** using a CNN-based nodule classifier.

Real-Time Eye Detector (Python) — Sep. 2024 – Jan. 2025

- Applied **transfer learning** with **YOLO** for real-time face and eye detection.
- Integrated **OpenCV** and **PyTorch** for eye-state classification and drowsiness detection.
- Optimized inference performance; achieved **mAP@0.5 = 0.98** on a custom dataset.

Skills

Languages: Python, C/C++, SQL, JavaScript, Java, MATLAB, Bash
ML / CV: PyTorch, TensorFlow, scikit-learn, OpenCV **Systems:** Kafka, Spark Streaming, Redis, MySQL, MongoDB, PostgreSQL, SQLite, Elasticsearch, NGINX **Tools:** Git, Docker, AWS, Django, VS Code, Cursor