

Tz-Jie (Aragorn) Dai

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linkedin.com/in/aragorn1025 | github.com/aragorn1025 | F-1, STEM OPT eligible (36 months)

EXPERIENCE

Oregon State University

Corvallis, OR, USA

Computer Vision Developer, Department of Crop and Soil Science

02/2026–Present

- Built an image tiling pipeline with edge-object handling to standardize weed-detection drone data into unified formats, boosting downstream model mAP50 from **0.664 to a peak 0.772**.
- Configured NAS storage and containerized GPU-accelerated training environments to guarantee reproducible workflows for a 4-person research team.

Pentium Network Technology

Taipei, Taiwan

Software Developer, R&D

05/2022–01/2025

- Owned auth for a PAM platform (FastAPI, PostgreSQL); cut the time to change auth logic from about **2 weeks to <8 hours** by refactoring a monolithic auth flow into a composable Chain-of-Responsibility pipeline supporting MFA, LDAP, and SSO.
- Eliminated race conditions in license allocation (previously **1–2/week**, surfaced in UAT) by designing a Redis-based distributed lock, ensuring atomic license checks across concurrent API and Celery workers.
- Built audit dashboard and reporting features; cut API latency from 450ms to 25ms via Redis caching, and offloaded report generation to Celery workers with MinIO file storage and Socket.IO completion notifications.
- Reduced CI/CD run time from 18 to <3 minutes by restructuring multi-stage Docker builds with an internal registry, and consolidating DB migrations per test tier.
- Authored API and schema design docs and reviewed peers' designs and code as part of an Agile team's workflow; also helped reinstate a missed document into the review process.
- Proposed and launched bi-weekly tech talks, driving knowledge-sharing across a 25+ person cross-functional team.

M800 Taiwan

Taipei, Taiwan

Software Engineer, R&D

01/2022–04/2022

- Built a release-automation dashboard (Gin, React) integrating Jira, Jenkins, and GitLab; cut release effort from **60–120 to <5 minutes** and enabling PMs to ship 1–5 daily releases without SRE dependency for a 70+ member team.

LEDA Creative Technology

Taoyuan, Taiwan

Software Engineer, R&D

10/2020–09/2021

- Built an MQTT-based model deployment pipeline that replaced manual USB transfers to industrial edge devices for customers across food-processing, electronics, and semiconductor industries.
- Packaged computer vision models into containerized, GPU-accelerated CLI-driven services with customized dataset loaders, enabling users to run training and inference via an AI platform.

EDUCATION

Oregon State University

Corvallis, OR, USA

M.S. in Computer Science (minor in Artificial Intelligence), GPA: 4.00/4.00

09/2025–06/2027 (expected)

National Central University

Taoyuan, Taiwan

M.S. in Computer Science and Information Engineering, GPA: 3.53/4.00

09/2018–06/2020

- Co-invented an AI-assisted medication verification system on NVIDIA Jetson TX2, cutting pharmacist workload by an estimated **25%**—awarded a Taiwan Patent and a Gold Medal at Taiwan Innotech Expo 2020.

National Central University

Taoyuan, Taiwan

B.S. in Computer Science and Information Engineering

09/2013–06/2018

TECHNICAL SKILLS

Languages: Python, Go, SQL, TypeScript, Bash

Backend: FastAPI, Flask, Gin, PostgreSQL, Redis, SQLAlchemy, Celery, MinIO, RESTful APIs, async processing

Auth & Security: OAuth2, SSO, LDAP, MFA, JWT/JWKs, Bcrypt, RBAC

Infrastructure: Docker, Kubernetes, Git, GitHub Actions, CI/CD, Linux, pytest

AI & CV: PyTorch, OpenCV, NumPy, W&B