YuJia Liang

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EDUCATION

National Taiwan Ocean University — Keelung, Taiwan

B.S. in Computer Science and Engineering - GPA: 3.6/4.0 — *Sep. 2022 – Present (EST. May 2026))*

Relevant Courses: Data Structures, Algorithms, Operating Systems, Computer Networks, Database Systems, Digital Logic, Computer Organization, Information Security, Introduction to AI, Web Programming, Java, Python, Verilog, SwiftUI, Graph Algorithms, Discrete Mathematics

RESEARCH & PROJECTS

Volleyball Line Judging System — Nov. 2024 – present

OpenCV, Python — Advisor: Prof. Pei-Yi, Ding — *Team size: 3*

- Designed an automated in/out detection system for volleyball using OpenCV and image classification.
- Captured and processed real-time court imagery to identify ball boundaries and improve officiating accuracy.

Archon RWA Tokenization DApp — 2025

React, Vite, ethers.js, Solidity, Hardhat — *Team size: 1*

- Developed a modern full-stack DApp for RWA tokenization, KYC compliance, and secure NFT transfer.
- Implemented KYC verification, ERC721 NFT minting, and compliant transfer logic.
- Integrated MetaMask wallet support and real-time feedback for all user actions.
- Designed both admin and user panels for asset management and compliance.

Image Processing Project — 2025

Python, OpenCV, NumPy, scikit-image — *Team size: 1*

- Implemented comprehensive image processing algorithms including ISP (Image Signal Processing) pipeline and 3A (Auto Exposure, Auto Focus, Auto White Balance) algorithms.
- Developed computer vision features including edge detection, feature detection, image enhancement, noise reduction, and image segmentation.
- Created a modular architecture with efficient processing pipeline achieving sub-5-second average processing time per image.

ASL Hand Gesture Recognition App — Dec. 2024 – Feb. 2025

SwiftUI, CreateML — *Team size: 1*

- Trained a custom machine learning model to classify 28 hand gestures (A-Z, Space, Delete) using CreateML.
- Integrated real-time camera input into a SwiftUI iOS app to enable sentence construction from gestures.
- Designed a user-friendly interface for accessibility in communication.
- WWDC2025 Submission

School Course Selection Web System — Dec. 2024 – Jan. 2025

PHP, MySQL — *Team size: 3*

- Developed a role-based course selection platform with secure login and selection validation.
- Implemented admin-side class management and backend database integration.

SyncUp - Social Calendar App — 2025

Flutter, Firebase, Google Maps API — *Team size: 1*

- Developed a modern social calendar app with real-time event sharing and friend management using Flutter and Firebase.
- Implemented location-based event suggestions and interactive calendar interface with Google Maps integration.
- Integrated Firebase Authentication, Cloud Firestore, and real-time chat features with read receipts.

EXPERIENCE

ITRI — Jun. 2025 – Aug. 2025

AI Image Recognition Intern, Electronics and Optoelectronics Research Laboratories — *Hsinchu, Taiwan*

- Assisted in object detection model pruning, training, and deployment for embedded systems.
- Implemented image streaming and detection results transmission via Ethernet for real-time processing.
- Optimized YOLO object detection models through pruning techniques and model transplantation.
- Supported reproduction and exploration of other state-of-the-art (SOTA) models for research purposes.

Technical Skills

Programming Languages: C++, Java, Python, TypeScript, JavaScript, HTML, SQL, MATLAB, Verilog, SwiftUI, PHP
Tools: Git, VS Code, Jupyter Notebook, Firebase
Frameworks: React, Bootstrap
Languages: English (Fluent), Mandarin (Fluent), Japanese (JLPT N3)

Extracurricular Activities

National Taiwan Ocean University Tennis Team Member   2022 - 2023
Keelung, Taiwan

Volleyball Department Team Member   2022 - 2025
Keelung, Taiwan

Hackathon Participant   2024