

# 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*

**Relevant Courses:** Data Structures, Algorithms, Operating Systems, Computer Networks, Database Systems, Information Security, Introduction to AI, Web Programming, Python, 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.
- Built a responsive frontend with dark/light theme, toast notifications, and a unified design system.
- 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 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

## 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

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National Taiwan Ocean University Tennis Team Member	2022 - 2023 <i>Keelung, Taiwan</i>
Volleyball Department Team Member	2022 - 2025 <i>Keelung, Taiwan</i>