# Shao Huang (Dennis) Hsu

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## EDUCATION

**Master of Science in Electrical and Computer Engineering**                                    Expected: Dec 2027

**Machine Learning and Data Science**

University of Southern California (USC), Los Angeles, CA

**Bachelor of Science in Electrical Engineering**                                                          Jan 2024

National Taiwan Ocean University (NTOU), Keelung, Taiwan

## SKILLS

- Programming Languages: C/C++, Python, Java, MATLAB, ADB (Android Debug Bridge), Unity (C#)
- Web Development: HTML/CSS, JavaScript

## WORK EXPERIENCE

**R&D Test Engineer: Intern**

HTC Corporation | New Taipei, Taiwan                                                          Aug 2024–Apr 2025

- Built an automated testing framework using Python to conduct repeated tests and analyze the resulting data. This approach significantly improved team efficiency by reducing testing time by 30% and increasing accuracy by 25%.
- Collaborated with the management on multiple projects, contributing to the successful completion of five projects ahead of schedule and receiving positive feedback from the team lead.
- Utilized ADB to capture logs and analyze data from new products, identifying and documenting ten critical issues that improved product reliability by 20%.

## RESEARCH EXPERIENCE

**Website Development**                                                                            Oct 2024–Dec 2024

HTML/CSS/JavaScript

- Designed and developed a personal portfolio website featuring interactive elements and well-structured layouts to showcase skills, experience, education, and projects.
- Created a visually engaging portfolio that effectively communicates qualifications and encourages engagement from potential employers.

**Cross Exchange Trading Core**                                                                  JUL 2025–AUG 2025

- Modular cross-exchange trading engine: Efficiently fetches market data, manages orders, and tracks PnL across major centralized crypto exchanges.
- Scalable, plug-and-play architecture: Easily add new exchanges via connector modules; unified interfaces ensure consistent usage.

- Robust and well-documented: Includes strong error handling and clear documentation, making future upgrades and extension straightforward.

**Logo Tracking System**                                                         Mar 2023–Sep 2023

- Collected and labeled a dataset of 500 custom photos and trained an object recognition model using YOLO (You Only Look Once) v5.
- Developed an application integrated with the Unity game engine to instantly identify targets and trigger video playback, with support for mobile deployment.
- Integrated image recognition with interactive media, demonstrating skills in machine learning deployment and real-time vision systems.

## PROJECT EXPERIENCE

**AI Image Recognition**                                                                      Apr 2025

- Developed a real-time image recognition pipeline using MediaPipe and Python, capable of processing and analyzing live video streams with high accuracy and efficiency.
- Leveraged MediaPipe's processing modules to visualize, track, and compare differences in hand movements and body gestures.
- Applied the system in scenarios such as gesture-based control and sign language recognition, demonstrating strong integration of computer vision techniques with interactive applications.

**Exchange Rate Calculator**                                                              Apr 2023

- Built a responsive, user-friendly currency conversion tool using HTML, JavaScript, and a real-time exchange rate API, featuring a clean UI for instant multi-currency conversions and real-time updates.
- Implemented robust error handling and loading states to ensure reliability and a smooth user experience under all network conditions.

**Low-Pass Filter Design**                                                                 Jan 2023

- Proposed and designed a low-pass filter to eliminate aliasing effects in circuits, ensuring stable circuit operation. (GitHub project: https://github.com/DennisHsu716/project2.github.io)
- Successfully manufactured and tested the low-pass filter, confirming its effectiveness in eliminating aliasing effects and enabling smooth circuit operation.

**Auto Fish Tank**                                                                            Jan 2023

- Designed and built an Arduino-based aquarium automation system for real-time temperature monitoring and automatic adjustment, ensuring optimal aquatic conditions.
- Programmed sensors and control modules with LED and buzzer alerts to provide immediate notifications of abnormal conditions, enhancing system safety and intelligence.

## CERTIFICATIONS

- **Google Analytics Certification -** Data Analytics                                        Aug 2025
- **LinkedIn Learning Certificate of Completion –** Data Science                             Aug 2025
- **Datacom Software Development Job Simulation -** HTML/CSS/JavaScript/Database             Jan 2025
- **Wells Fargo Software Engineering Job Simulation -** Java/Java Persistence API/Java Spring/Git     Jan 2025