Shao Huang (Dennis) Hsu

Tel: +1 (510) 890-1289|Email: shaohuang.hsu@gmail.com
Website: https://bit.ly/DennisHsu | LinkedIn: https://www.linkedin.com/in/dennishsu-a7b11831a/

EDUCATION

Master of Science in Electrical and Computer Engineering Expected: Jun 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 and user-friendly currency conversion tool using HTML, JavaScript, and a real-time exchange rate API.
- Designed a clean and intuitive UI that allowed users to quickly query current exchange rates, perform accurate multi-currency conversions, and view real-time updates.
- Implemented error-handling and loading states to enhance user experience and ensure reliability under various network conditions.

Python Arcade Shooter Game Jan 2023

- Developed a classic 2D aircraft shooting game using Python and the Pygame library, integrating artificial intelligence for enhanced gameplay.
- Applied object-oriented programming (OOP) to manage game elements (player, enemies, projectiles), and modular design for scalability and future AI enhancements
- Introduced a basic AI enemy behavior system that adjusts difficulty based on player performance using simple reinforcement learning techniques

Aquarium Automation System

- Designed and built a microcontroller-based aquarium automation system using Arduino, enabling real-time temperature monitoring and adjustment to maintain optimal aquatic conditions
- Programmed sensors to measure water temperature and control a heater or fan module accordingly, ensuring a stable and healthy environment for aquatic life.
- Integrated LED indicators and buzzer alerts to provide immediate visual and audio notifications for abnormal conditions, improving the safety and intelligence of the system.

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.

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