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

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 extensions straightforward.

TableVision AI Mar 2023–Sep 2023

- Curated and meticulously annotated a high-quality dataset of 809 custom tableware images, leveraging precise YOLO format labeling to maximize detection accuracy in computer vision tasks.
- Trained and fine-tuned a YOLOv5 object detection model on Google Colab with GPU acceleration, using advanced augmentation and hyperparameter optimization for strong generalization across data splits.
- Delivered a real-time, high-accuracy AI pipeline detecting multiple tableware categories in challenging conditions, showcasing expertise in machine learning, deep learning, and computer vision deployment.

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.

PROJECT EXPERIENCE

Deep Learning for Medical Image Classification Mar 2025

- Built and trained a ResNet18-based deep learning model for binary classification of medical images using PyTorch, achieving 100% validation accuracy in the test run.
- Prepared and processed datasets by generating train.csv and val.csv files with image paths and labels, enabling reproducible and configurable experiments via train.py and YAML configs.
- Implemented model saving (best_model.pth) for downstream inference, supporting seamless deployment and evaluation in medical imaging applications.

Quant Vision Jan 2025

- Developed a machine learning pipeline for stock price prediction, covering Yahoo Finance data collection, feature engineering, and model training with TimeSeriesSplit cross-validation.
- Evaluated performance with CV RMSE of 0.02239 and MAE of 0.01303, with plans to enhance using models like XGBoost, LightGBM, and LSTM.

Fake News Detection AI – NLP & Deep Learning Mar 2025

- Built a fake news detection pipeline combining a baseline TF-IDF + Logistic Regression model with an advanced RoBERTa fine-tuning approach using Hugging Face Transformers.
- Developed modular, reproducible scripts for data preprocessing, baseline training, and transformer fine-tuning, integrated with Google Drive and Google Colab.
- Achieved significant gains over baseline; proposed improvements with larger datasets, advanced augmentation, and stronger transformers

AI Image Recognition Apr 2024

- 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.

Python Arcade Shooter Game Dec 2024

- Developed a 2D arcade-style aircraft shooting game in Python and Pygame with player controls, bullet mechanics, collision detection, and scoring system.
- Applied object-oriented programming (OOP) to design modular game components, ensuring scalability and maintainability.
- Implemented real-time event handling, animations, sound effects, and difficulty scaling for an engaging gameplay experience.

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