

Tz-Jing (Hansi) Lee

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EDUCATION

University of Southern California, Viterbi School of Engineering

Bachelor of Science, Electrical and Computer Engineering

Honors: Dean's List (Fall 2025-Present), CURVE Fellow (Fall 2026-Present)

Los Angeles, CA

August 2025 – May 2028

GPA: 3.85

EXPERIENCE

Khan Lab USC/CURVE Researcher

Los Angeles, CA/January 2026 – Present

- Designed a 2D layout of electrodes and laser-cut microfluidic components in an original spiral-shaped pattern for sweat collection devices and lithium sensors to conduct physical and mental stress detection with a PhD student, designed layout of multi-electrode sweat sensing board and built device for publication, researched materials, designs, and improvements for automatic sampling capsule in the gut microbiome, designed prototype of capsule shell and chamber for human oral-entry
- Conducted experiments via operating microfluidic pumps and multiple artificial sweat samples, collected and analyzed data for lithium sensing, prototyped a solution for implementing a hardware-based stress detection system, engaged in weekly meetings with mentor to align goals and monthly CURVE seminars for exploring research and sharing ideas with peers

Hubl LLC/Co-Founder/CTO

Los Angeles, CA/November 2025 – Present

- Startup aimed at a specialized demand-responsive transport system with buses. Prototyped a hub generation and path finding algorithm for a bus pickup simulation via Google Maps API utilization in the metropolitan area of LA, developed a fronted user interface for infrastructure planning and experimentation to train routes, embedded animations on company website
- Calculated hypothetical earnings and developed market plan, designed a pitch deck and made three 5-minute pitches, built preliminary ticket distribution web-app, consulted legal advice for running trips to improve service model and stability, received 1st place in Buildathon and 2nd place in Games Week Hackathon, backed by USC Marshall Greif Incubator

Institute for Information Industry/Cybersecurity Intern

Taipei, TW/June 2026 – August 2026

- Built LLM assisted ISO27001 Clause Compliance and Auditing tool, created pipeline for compliance clauses and synthetic company PDF document generation via Google Vertex AI, implemented PDF parsing workflow and algorithm for pre-processing, designed ISMS-based 4-step LLM analysis engine producing audit report in JSON/MD, developed and designed web app and UI to host tool pipeline, inference time of 60s with 98% match with desired compliance level
- Delivered detailed presentation and documentation for tool deployment, presented weekly to mentors and integrated feedback effectively to align goals, effectively conveyed and communicated ideas between peers and mentors and provided support, received Competency Certification in Generative AI Office Applications by passing the exam

YesTurnkey Technology Inc./Electronics & Network Engineering Intern

Taipei, TW/May 2026 – July 2026

- Configured a remote peer-to-peer webcam streaming via Raspberry Pi 5 supporting multiple user browser access, set up virtual Ubuntu machine on Windows server via WebRTC, established Session Traversal Utilities for NAT(STUN) local server connection and Traversal Using Relays around NAT(TURN) server for guaranteed remote access and connection
- Navigated company network and configured port-forwarding between servers, automated Raspberry Pi peer connection to ensure constant availability, migrated user domain to company-owned domain and compiled detailed documentation

Terra Labs USC/Electrical Engineer/Programmer

Los Angeles, CA/September 2026 – Present

- Designed and configured control and power for 7DOF robotic arm with vertical scaling capabilities, utilized end-effectors to attach and detach from platform, configured control setup with esp32 master-slave system isolating three motor groups, calibrated and simulated robot movement with unit testing and ROS2, scales vertically in human technology interactive space

Chang-Gung University Intelligent Control Lab/Project Founder/Researcher

Taoyuan City, TW/August 2024 – June 2025

- Programmed an original Sudoku solving algorithm (<0.2 sec./solve) and produced data, conducted data pre-processing, and constructed and refined a deep learning model for handwritten digit recognition via the ESP32 microcamera for a computer-driven sudoku solver, built a physical product design prototype, and composed an engineering notebook
- Researched various ML model architectures in dynamic hand-gesture recognition with Professor Yeong-Hua Chang, produced accuracy scores of 85% via the MobileNet+GRU architecture and hyperparameter optimization, co-composed a research report and presented a poster at the National 20th Formosa Plastic Corp. Applied Technology Seminar

SKILLS & INTERESTS

Technical: Python, C++, 2D CAD, PCB, Linux, MATLAB, Agentic AI, LLM, ROS2, ESP32, Raspberry Pi, Arduino, Presentation

Interests: AI Security, Security R&D, Systems and Devices, Robotics, Competitive Programming, Fitness, Chess, Poker, Pool