Li-Cheng Tseng

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Summary

Senior CSIE undergraduate at National Cheng Kung University (minor in Electrical Engineering). Interested in human–computer interaction and tangible interactive devices. I enjoy building things end to end — enclosure, circuit, firmware, and software.

Education

B.S. **National Cheng Kung University (NCKU)**, Computer Science and Information Engineering — Tainan, Taiwan — Sept 2023 – present

- Minor in Electrical Engineering
- Average score 92.21 / 100, ranked 10 of 165 (top 6.1%)
- Selected courses: Digital IC Design (graduate, 96), Operating Systems (99), Machine Learning I (99), IoT Device Programming and Interfaces (99), Algorithms (97), Linear Algebra (97)

Honors and Awards

Excellent Award (Top Prize), 2026 IC/CAD Contest, Taiwan — Nov 2026
Problem D: Timing Fixing by Useful Skew (proposed by Realtek) — Top-tier award; presented at the EDA Workshop in December 2026.

Design Completion Certificate, 2025 National University IC Design Contest — 2025
Undergraduate Cell-Based Digital Design

Participant, NCKU CSIE Undergraduate Research Competition — 2026
Academic year 2026–2027

Projects

RISC-V Instruction Set Extension for SHAKE-256 in SLH-DSA Post-Quantum Signatures — June 2026
Undergraduate research project, advised by Prof. Pei-Yin Chen (team of 4).

- Designed and implemented custom RISC-V instructions to accelerate SHAKE-256 hashing in the SLH-DSA post-quantum signature scheme.

Timing Fixing by Useful Skew — Nov 2026
2026 IC/CAD Contest, Taiwan (Problem D), advised by Prof. Jai-Ming Lin (team of 4).

neXus — Modular Sensory Experience System — May 2026
Collaboration with Industrial Design students, exhibited at Young Designers' Exhibition (YODEX).

- Quick-assembly modules that combine sound, light, temperature, wind, mist, and scent, controlled remotely through software (Node.js, ESP8266).

Lightstick — Distributed Lighting Control for Live Performance — Jan 2026

- Built the enclosure, circuit, and firmware alone; a controller, gateway, light sticks, and web server stay in sync over ESP-NOW (SolidWorks, Node.js, ESP8266).

POV Light Performance Props — Dec 2025

- Persistence-of-vision light staff and light snake for a camp stage performance, built with a senior (Node.js, ESP32-S3).

Crop The Answer — Jan 2025
Windows Programming course project, Unity (team of 3).

Other course projects

- PIC Tetris 2 You — Microcomputer course, C on PIC
- VPP Real-Time Scheduling System — Real-Time Systems course, Python
- FPGA VGA Bouncing-Ball Game — Digital Systems course, Verilog
- BiBi BoBo — coin-sorting piggy bank designed from scratch with 3D printing and laser cutting

Leadership and Teaching

28th NCKU Engineering Science Camp (ESC), Course Director — Tainan, Taiwan — Jan 2026

- Led a small team designing hands-on courses for about 150 high-school students: logic-gate circuits, ESP8266, SolidWorks, soldering, and wireless communication.
- Designed a 6-hour workshop in which every student built their own light stick, later used in the camp's final performance.

NCKU Department of Engineering Science, Maker Program, Microcontroller Instructor — Tainan, Taiwan

NCKU Transfer Students Association, Vice President — Tainan, Taiwan

NCKU Bike Festival, Project Team Member — Tainan, Taiwan — Mar 2024

- Built an LED cube light-and-music show inside a blackout tent to showcase the Department of Engineering Science.

Service

TAICHI 2026 (Taiwan HCI Conference), Student Volunteer — Aug 2026

- Guided guests, helped set up the venue, and ran the interactive wall.

Big Bang! Futures!, Volunteer

Skills

Programming: Python, C/C++, C#, Verilog, RISC-V and 8051 assembly, Node.js

Hardware & Embedded: ESP8266 / ESP32, Arduino, PIC (MPLAB X), 8051, FPGA (Vivado), VCS / Verdi / ModelSim

Design & Tools: SolidWorks, AutoCAD, 3D printing, Laser cutting, Unity, Android Studio, MATLAB