Panithan Lertsuntivit

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Summary & Skills

UC Berkeley Mechanical Engineering Graduate and US Citizen with proven experience in instructing engineering courses focused on hardware integration, microprocessor architecture, and embedded development. Hands-on experience in manufacturing, rapid prototyping, electromechanical integration, and validation testing. A proactive problem-solver eager to apply hands-on technical skills to build next-generation platforms.

Software & Analysis: SolidWorks, Python, AutoCAD, Onshape, ESP-IDF, C, LabVIEW, MATLAB

Hardware & Manufacturing: NI DAQ, System Integration, Hardware Validation, Oscilloscopes, 3D Printing, GD&T, Machining (Mill/Lathe), Wire Harnessing, Cleanroom Protocols

Education

University of California, Berkeley — Graduated December 2025

B.S. in Mechanical Engineering — *GPA:3.73*

University of California, Berkeley — Graduated May 2023

A.S. in Engineering — *GPA:4.00*

Professional Experience

UC Berkeley Mechanical Engineering — Berkeley, CA

Teaching Assistant | ME 103 - Experimentation and Measurements — *August 2025 - December 2025*

- Guided 160+ students in validating sensor data using NI USB-6211 DAQs and LabVIEW, debugging DAQmx configurations and teaching oscilloscope proficiency to resolve data acquisition failures.
- Mentored student teams on instrumenting dynamic systems (e.g. using strain gauges, LVDTs, etc.) and evaluated measurement fidelity for final technical presentations and reports.
- Managed engineering lab resources by implementing a centralized scheduling system for high-value equipment (Instron, Wind Tunnel, IC Engine, Camshaft Dynamics, Thermal Camera), streamlining coordination with shop staff to ensure mandatory supervision and safety compliance.

Teaching Assistant | ME 100 - Electronics for the Internet of Things — *August 2024 - May 2025*

- Mentored 25+ groups in troubleshooting software and hardware failures, ranging from algorithms implementation to circuit continuity, enabling the development of ESP32-based IoT prototypes.
- Delivered weekly reviews on circuit analysis (KCL/KVL, Op-Amps, Transistors) and communication protocols, creating high-fidelity visual resources and recordings used by the 200+ student cohort.

National Tsing Hua University — Hsinchu, Taiwan

Research Intern | Yang Lab for Biomechanics — *June 2025 - August 2025*

- Engineered the mechanical architecture for a bio-inspired fluid dynamics test rig to simulate cuttlefish ink flow patterns, designing a custom linear actuation system (stepper motors, lead screws) to strictly control variable volumetric flow rates of ink and mucus.
- Accelerated the project timeline by delivering a validated SolidWorks assembly and comprehensive Bill of Materials (BOM), utilizing Motion Studies to verify mechanism travel limits and sourcing compatible components from industrial vendors (e.g., Misumi).

Irvine Valley College Irvine, CA

Student Tutor *June 2022 - July 2023*

- Provided 1-on-1 technical instruction in Calculus I/II, Physics, Chemistry, and Engineering Statics, deconstructing complex topics and help long-term students achieve academic excellence.
- Mentored students in Computer-Aided Design, guiding them through interface navigation, modeling complex 3D geometries, and creating standardized engineering drawings.
- Optimized tutoring center operations by managing scheduling logistics and mapping software availability across workstations to improve student access to technical resources.

ORGANIZATIONS

Aerospace SAE at UC Berkeley | *Director of Avionics* 2024 - 2025

- Led the integration of avionic subsystem for the 2025 SAE Aero Design West competition, ensuring compliance with the 750W power limit and contributing to a 3rd Place National finish.
- Engineered a ESP32-based thrust test rig to characterize propulsion data across multiple configurations; analyzed results and optimized the propulsion system that maximized thrust.
- Designed and fabricated custom wire harnesses, implementing Molex Mega-Fit connectors to ensure mechanical integrity and electrical continuity under high-vibration flight conditions.

Thai American Cultural Association at UC Berkeley | *Finance Chair* 2025

- Managed and audited financial transactions for club initiatives.

PROJECTS & INTERESTS

eV/STOL – Developed a tilt-rotor tricopter, utilizing OnShape and Arduino-based flight controllers to achieve hybrid vertical/horizontal flight capabilities.

Microfabrication of Transistors – Fabricated 4-mask NMOS devices in a cleanroom environment; performed oxidation, photolithography, diffusion, metalization, and metrology validation.

Effects of Filament Dyes – Conducted tensile and bending test on 3D printed specimens using an Instron 5500, analyzing data to quantify the mechanical impact of pigment additives in PLA filament.

Real-Time Plotter – Developed a Wi-Fi-enabled plotting system utilizing LabVIEW for telemetry and an ESP32 for low-level stepper motor control via TCP/IP protocols.

Mobile Desk – Prototyped a portable workstation conforming to ASME Y14.5M GD&T standards; fabricated aluminum components using manual machining to +/- 0.001” tolerances.

Wall Climbing Vehicle – Designed a suction-based rover using SolidWorks, utilizing laser-cut living hinges to achieve complex flexible geometries for rapid chassis prototyping.

Dark Matter Star Model – Developed a Dark Matter self interaction model by numerically solving the Tolman-Oppenheimer-Volkoff equations; presented at the 2023 UCI Building Bridges Conference.

Hobbies: Exploring Cultural Landmarks and Establishments and Asian Gourmet Cooking