

DANNY LIU

MECHANICAL ENGINEER

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Mechanical Engineer with research and hands-on experience in battery systems, heat transfer, and thermal management. Published on lithium-ion batteries and cooling technologies. Skilled in simulation, CAD, and experimental testing. Driven to enhance battery performance and safety through innovative engineering.

AREA OF EXPERTISE

Battery Thermal Management	Simulation & Modeling	Materials Engineering
Heat Transfer Engineering	CAD & Mechanical Design	Experimental Testing

PROFESSIONAL EXPERIENCE

Asia Vital Components Co., Ltd — Fan & Thermal Systems

Oct 2023 – June 2024

- Designed high-efficiency fan blades using Creo Parametric to enhance airflow and cooling in compact electronic systems.
- Conducted CFD simulations in Ansys Fluent to analyze airflow, pressure distribution, and heat dissipation.
- Created biomimetic fan blade designs inspired by bird feathers to reduce aerodynamic noise.
- Optimized blade geometry and housing shape to balance cost, noise reduction, and manufacturing feasibility.
- Collaborated with thermal engineers and designers to develop compact cooling modules for battery systems.
- Verified design accuracy by comparing simulation data with prototype testing results.

Industrial Technology Research Institute — Surface Engineering for Heat Exchange

May 2023 – Oct 2023

- Created nano-coatings and surface treatments to improve heat exchanger and condenser performance.
- Used hydrophobic/hydrophilic surface etching to collect more water and boost condensation efficiency.
- Applied nanotechnology to improve heat transfer in dehumidification and battery cooling systems.
- Designed and analyzed fin structures with Autodesk Inventor to improve heat dissipation.
- Tested surface coatings for durability, adhesion, and heat transfer performance using lab instruments.

EDUCATION

University of Wisconsin–Milwaukee, Milwaukee, WI

Expected May 2026

Master of Engineering in Mechanical Engineering & Industrial Engineering

- Coursework: Thermodynamics, Computational Fluid Dynamics (CFD), Six Sigma, Operations Research

Chung Yuan Christian University, Taoyuan, Taiwan

Sep 2020 - June 2024

Bachelor & Master of Science in Mechanical Engineering (Accelerated Program)

- Research in battery thermal management and cooling technologies.
- Thesis on “Thermal performance optimization of lithium-ion batteries using misaligned multi-minichannels”.

ADDITIONAL INFORMATION

- Languages:** English, Mandarin.
- Technical Skills:** Ansys Fluent, Creo Parametric, SolidWorks, Autodesk Inventor, MATLAB.
- Awards/Activities:** UWM Chancellor’s Graduate Student Award (2024), Outstanding Graduate Award at CYCU (2024)