

# Ying Kung

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## EDUCATION

National Taiwan University (NTU) Taipei, Taiwan  
Master in applied mechanics Jul 2025  
GPA: 3.62  
Relevant courses: Applications of Deep Learning in Science and Engineering; Principles and Experiments of Mechatronic Systems; Stochastic Control; Electronics Laboratory  
National Yang Ming Chiao Tung University (NYCU)  
B.S. in Civil Engineering Jul 2023

## RESEARCH INTERESTS

Battery state analysis, electrochemical parameter estimation, and predictive modeling for energy systems; applications of artificial intelligence in robotics, autonomous systems, and electric vehicles

## MANUSCRIPTS UNDER REVIEW

- **Ying Kung**, Yu-Hong Zhang, Chi-Jyun Ko, & Kuo-Ching Chen (2024). Predicting the onset of lithium plating by the full-cell voltage: A pseudo-P curve approach. *Energy Storage Materials*

## RESEARCH PROJECTS

**Research on Frequency-Specific Modeling for Battery Parameter Identification Under Aging**  
*Graduate Research | Advisor: Prof. Kuo-Ching Chen* NTUIAM, TAIWAN. May 2025 - Present

- Developed physics-informed ML framework for electrochemical parameter estimation from partial EIS data
- Implemented a two-stage Sobol sensitivity analysis to identify aging-sensitive parameters in distinct frequency bands
- Designed band-specific Transformer models achieving sub-1% MAPE for SOH  $\geq 75\%$ , enabling real-time battery diagnostic

## PROFESSIONAL EXPERIENCE

**Liming Engineering Consultants Co., Ltd.** Taiwan  
*Engineering Intern* Jul 2022 — Aug 2022

- Supervised construction progress for schedule and safety compliance; reviewed blueprints, handled documentation, and coordinated with contractors

**Jiang Hong Cram School** Taiwan  
*Part-time Problem-Solving Instructor* Sep 2023 — Aug 2024

- Taught math and physics to high school students; developed tailored problem-solving strategies to improve analytical skills

## AWARDS & SCHOLARSHIPS

- Honorable Mention, Student Paper Competition, 35th National Conference on Combustion and Energy — Top student research recognition in combustion and energy engineering May 2025
- Dean's Award, College of Engineering, National Taiwan University — Top 10% of students in each department; eligibility requires submitting a master's thesis to an international peer-reviewed journal Aug 2025

## SKILLS & INTERESTS

- **Languages:** Mandarin Chinese (native), English
- **Programming & Data Analysis:** Python, MATLAB, PyTorch; NumPy, Pandas, scikit-learn, Matplotlib
- **Software and Tools:** COMSOL, LaTeX, Excel
- **Interests:** Fitness, Gaming, Culinary exploration