Yi-Chen Chen

(404)734-3414 | ychen3826@gatech.edu | LinkedIn | Personal Website

EDUCATION

Georgia Institute of Technology — GA **Aug. 2024 – Jun. 2026 (Expected)**
Master of Science (M.S.), Mechanical Engineering
- Relevant Coursework: Intermediate Heat Transfer, Prin of Thermodynamics, Transport Phenomena Multiphase Flow

National Tsing Hua University (NTHU) — Hsinchu, Taiwan **Sep. 2020 – Jun. 2024**
Bachelor of Science (B.S.), Power Mechanical Engineering **GPA: 3.91/4.3**
- Dean's List: Spring 2022, Spring 2023
- Relevant Coursework: Cooling Systems for Electronic Equipment, Heat and Mass Transfer, Advanced Fluid Dynamics, Energy Engineering, Numerical Analysis, Mechanical Design, Computer Aided Design, Materials Science

SKILLS

Design and CFD Simulation: Inventor, AutoCAD, ANSYS Fluent, SimScale, SolidWorks, COMSOL, KiCad, Six Sigma
Programming: MATLAB, C, Advanced Excel
Hardware Technical: CNC milling machine, additive manufacturing, thermocouple

WORK EXPERIENCE

HW Smart Engineering — Taiwan **Mar. 2024 – Jul.2024**
Mechanical Engineering Intern
- Identified energy-saving solutions for Taipei 101 that improved COP by more than 16% through numerical analysis.
- Diagnosed the cooling design defects by conducting on-site inspections and performance measurements.
- Optimized cooling systems for a military facility National Chung-Shan Institute of Science and Technology.
- Forecasted the performance of the Taipei 101 HVAC system using MATLAB and excel.
- Assisted customers in applying for carbon credits and enhancing their corporate image.

Micro Mobio Corporation — Taiwan **Jan. 2024 – Feb. 2024**
Mechanical Engineering Intern
- Modified IC layouts with KLayout to enhance the working voltage and output power of microwave power amplifiers.
- Improved product design efficiency by creating 3D component models with Inventor and 2D version with AutoCAD.

RESEARCH EXPERIENCE

Design Bio-inspired Pneumatic Soft Robot Structure — NTHU, Taiwan **Sep. 2022 – Jan. 2024**
Undergraduate Project - 2nd Place among 30 competing teams
- Innovated and fabricated an amphibious soft robot inspired by salamanders using additive manufacturing.
- Experimented with and developed composite materials to foster better mobility in terrestrial and aquatic environments.
- Conducted comprehensive performance analysis using Tracker motion analysis software to identify the optimal structure, examining key parameters including swimming speed, oscillation frequency, and oscillation angle.
- Designed a jagged limb structure and tail grooves to demonstrate crawling capability at 0.2 cm/s and swimming capability at 8 cm/s.

Mechanical Analysis of Climbing in Eels — NTHU, Taiwan **May 2020 – Jan. 2023**
Undergraduate Researcher
- Investigated adhesion forces and climbing behavior in eels through real-life observations and literature review.
- Developed and executed an animal experiment to stimulate and observe eel crawling behavior in partnership with Prof. Tzeng's Laboratory, with full approval from the Institutional Animal Care and Use Committee.
- Conducted experiments on deceased eels and applied statistical methods to analyze and validate research findings.
- Presented research findings at the **Biomechanics Achievement Exchange Conference** in Taiwan.

EXTRA PROJECT

Rear Wing Design Project — NTHU, Taiwan **Apr. 2022 – Jun. 2022**
- Designed car rear wings with Inventor and analyzed performance under high speed with SimScale.
- Improved the lift-to-drag ratio by 240% by identifying optimal design characteristics.

LEADERSHIP

STEM Fest 2024— Gatech, USA **Sep. 2024**
- Empowered 2000+ children to explore scientific concepts and experiments as a SWE volunteer.

NTHU Summer International Companion — NTHU, Taiwan **Jun. 2023 – Sep. 2023**
- Supported exchange students' integration into campus life and exposure to Taiwanese culture.