Mingyuan Gao

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https://github.com/MingyuanG04

Education

University of Florida Gainesville, FL

Bachelor of Science in Mechanical Engineering(August 2022-December 2026) *Major GPA:3.76, Cumulative GPA:3.84*

Relevant Coursework: Mechanics of Materials/Composite Materials, Autonomous Vehicle, Classical Machine Learning, Probability, Mechanical Design, Linear Control, Heat Transfer

Experience

Undergraduate Research Assistant September 2024 – Present

Non-Linear Control and Robotics Lab *Gainesville, FL*

- Designed and constructed 10 quadcopter drones using off-the-shelf components, soldering, and 3D-printing for aerial robotics experiments, supporting lab research on autonomous flight and controller implementation.
- Documented drone building progress and uploaded to the lab's wiki page, made video instruction on operating different robots, serving as a reference for future drone builds.

Teaching Assistant August 2024 – Present

Herbert Wertheim College of Engineering *Gainesville, FL*

- Facilitate weekly office hours and grade homework, exams
- EML2023 (Intro to SolidWorks) — Fall 2025
- EGM2511 (Statics) -– Summer 2025
- EGM3520 (Mechanics of Materials) — Fall 2024, Spring 2025, Summer 2025

Virtual Exchange March 2025 – May 2025

University of Florida, USA/Aswan University, Egypt

- Conducted fluid mechanics experiments on pump curve and hydrostatic standpipe using educational laboratory kit.
- Collaborated with Egyptian students on writing lab reports and presenting results.

Projects

Ambient Sound Classfication

- Developed and trained a convolutional neural network (CNN) to classify short (5-second) audio clips into five ambient environment categories, achieveing 93.39 percent accuracy.

Egg Identification,Collection, and Classification

- Designed and Assembled a ground robot capable of searching, sorting, and collecting eggs automatically using 3D-printed parts, Raspberry Pi, Servo motors, and a camera.

Autonomous Vehicle Navigation

- Developed a path following algorithm in ROS2 to navigate a wheeled vehicle equipped with GPS and LiDAR along a predefined route.

Leadership and Involvement

Department Peer Advisor August 2025–Present

Mechanical and Aerospace Engineering department *University of Florida*

- Provide guidance to fellow students on course planning, academic resources, and departmental policies.
- Support advising staff with student outreach and engagement.

Awards

- John and Mittie Collins Engineering Scholarship (2025-2026 Academic Year)

Technical Skills

Programming Languages: Python, Matlab
Natural Languages: Mandarin(bilingual), English(bilingual), German(CEFR A2), Cantonese(Conversational)
Engineering Tools: SolidWorks, OnShape, LabView, Abaqus, ROS2, Git
Libraries: pandas, NumPy, Matplotlib