Meredith Doan

5438 Vassar Rd, Grand Blanc, MI 48439 | mgdoan@umich.edu | (810) 347-2859 | linkedin.com/in/mgdoan

Education

University of Michigan **Ann Arbor, MI**

BSE in Computer Engineering (expected Dec. 2025)

- GPA: 3.83/4.00
- Extracurriculars: IEEE-Eta Kappa Nu honor society (Corporate Relations Officer)
- Relevant coursework: Advanced Embedded Systems (Fall '25), Data Structures and Algorithms, Computer Vision

Work & Research Experience

EECS Department, University of Michigan **Ann Arbor, MI**

Instructional Aide, Embedded Control Systems (Fall 2025)

- Supporting students in applying embedded systems concepts including PWM, PID control, and real-time scheduling on the NXP S32K144 platform in the embedded controls lab.
- Helping lab groups debug C code and configure CAN bus communication to integrate hardware and software.
- Mentoring teams through an adaptive cruise control project using Simulink modeling and autocode generation.

Gulfstream Aerospace Corporation **Savannah, GA**

Flight Test Instrumentation Engineering Co-op (Summer 2025)

- Designed, programmed (C++), and validated an embedded PCB-based pressure sensing device to enable pressure data acquisition during flight testing; proposed as an improved alternative to supplier pressure sensing devices.
- Completed hardware design and parts procurement for a stall chute test box, laying the groundwork to test stall chute control panels prior to their installation on flight test aircraft and catch issues early on in the testing process.
- Advanced flight test anomaly detection project by reviewing ML outputs, preparing datasets, and integrating MATLAB software into department workflows; promoting early and efficient capture of issues in flight test data.

Electrical Systems Engineering Co-op (Fall 2024)

- Automated avionics test workflows by programming a full-stack application in Python, reducing manual verification time and eliminating repetitive tasks.
- Updated backend functionality (Julia) and developed a user interface for a legacy program that validates hardware parameters against customer-requested avionics options and system constraints; leveraged Git for version control.
- Wrote scripts (Julia) to automate avionics problem report tracking, reviewed supplier hardware changes, and conducted avionics testing and logic diagram analysis to ensure correct behavior of mission-critical systems.

Radiological Health Engineering Lab, University of Michigan **Ann Arbor, MI**

Research Assistant (2022-2023 and 2023-2024 academic years, Winter 2025)

- Supported hardware integration (LiDAR, depth camera) and software integration (ROS, PX4) to enable autonomous navigation for Intelligent Radiation Awareness Drones (iRADs).
- Configured SITL/HITL simulations in Gazebo and RViz to validate autonomous behaviors prior to flight testing.
- Selected hardware and developed a program (C++) to capture live Wi-Fi signal strength data, enabling safe testing of iRAD's radiation detection payload.

Kennedy Technologies Corporation **Dimondale, MI**

Computer Engineering Intern (Summer 2023, Summer 2024)

- Built C++/Python computer vision software with OpenCV and YOLOv8 to automate tracking and verification of corrugated products, improving order accuracy and efficiency in 5+ packaging plants.
- Designed and deployed a Raspberry Pi camera network with centralized server control, integrated a real-time data pipeline for efficient testing and deployment of computer vision software.

Expert in catching "mystery" bugs caused by Gibby (my cat) walking across my keyboard.