Meredith Doan

411 N. State Street, Ann Arbor, MI 48104 | mgdoan@umich.edu | (810) 347-2859

Education

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Engineering in Computer Engineering *May 2025*

- GPA: 3.838/4.00
- Relevant Coursework: Intro to Logic Design, Discrete Mathematics, Intro to Electronic Circuits, Data Structures & Algorithms, Intro to Signals & Systems, Computational Linear Algebra, Intro to Computer Organization, Computer Vision
- Honors: William J. Branstrom Freshman Prize, James B. Angell Scholar, five terms Dean's Honor List

Work Experience

Radiological Health Engineering Lab - University of Michigan **Ann Arbor, MI**
Research Fellow, Intelligent Radiation Awareness Drone (iRAD) Project *Sept. 2023 - Present*

- Developing software to process depth camera data for collision avoidance in PX4 Autopilot using Python and ROS.
- Integrating a LiDAR module with PX4 Autopilot to enable terrain following for autonomous navigation.

Research Assistant, iRAD Project *Oct. 2022 - Apr. 2023*

- Programmed an ESP32 microcontroller with C++ to continuously collect strength data of nearby WiFi networks for testing of iRAD's source mapping software.
- Presented research at the University of Michigan Undergraduate Research Opportunity Program Symposium, was selected amongst 800 presenters to receive a Blue Ribbon Award for an exemplary poster presentation.

Kennedy Technologies Corporation **Dimondale, MI**
Computer Engineering Intern *May 2023 - Oct. 2023*

- Led a R&D project aimed at streamlining operations in 5+ packaging plants through computer vision applications.
- Developed functionalities in C++ and Python using OpenCV, including a corrugated sheet counting algorithm, corrugated stack detection, camera calibration for precise image analysis, and distance estimation and dimensioning features.
- Implemented a real-time image capture system using Raspberry Pis equipped with cameras and employed socket programming for efficient data transmission.

Projects

Company Website **Grand Blanc, MI**
Doan's Landscape *November 2023 - Present*

- Developing a website using HTML, CSS, and JavaScript to showcase company work and expand customer base.
- Implementing features including a contact form and automated landscaping quotes to enhance customer engagement.

3D Puzzle Solver **Ann Arbor, MI**
EECS 281: Data Structures and Algorithms *Fall 2023*

- Developed a C++ program to solve puzzle maps with complex layouts, doors, buttons, and traps.
- Used data structures including queues and stacks to perform breadth-first and depth-first search and find puzzle paths.

Scaled-Down Solar-Powered Greenhouse **Ann Arbor, MI**
Engineering 100: Intro to Engineering *Winter 2022*

- Worked on a four-student team to design and construct a scaled-down greenhouse powered by pre-commercial, research-grade organic solar cells.
- Utilized Arduino, peristaltic pump, and temperature sensor to implement temperature control and watering systems.

Skills & Extracurriculars

- **Languages:** C++, Python, Verilog HDL, Julia, MATLAB, HTML, CSS, JavaScript
- **Certifications:** Remote Pilot Certificate
- **Extracurriculars:** Michigan Climbing Club, IEEE-Eta Kappa Nu, student pilot (50 flight hours)