Hythem Beydoun

Hythem@umich.edu | (313) 600-3813 | https://www.linkedin.com/in/hythemb

EDUCATION

University of Michigan Ann Arbor, MI

Bachelor of Science in Engineering in Electrical Engineering | GPA 3.95/4.0 August 2022 - April 2026

Course Highlights: Programming and Intro to Data Structures, Robotics Mechanisms, Intro to Logic Design, Intro to Electronic Circuits, Electricity and Magnetism.

Awards/Honors: Monitoring, Technology, and Verification (MTV) Fellowship, MTV Excellence and Diversity Fellowship.

SKILLS

Software: Fusion360, SolidWorks, C++, Python, Robot Operating System (ROS), Verilog HDL, Microsoft Office, Windows.
Hardware: Soldering, 3D Printing, CNC Milling, Laser Cutting, Arduino, Raspberry Pi.
Certifications: Small UAS Remote Pilot License, Sustainable Design.

WORK EXPERIENCE

Radiological Health Engineering Lab - Intelligent Radiation Awareness Drones Ann Arbor, MI

Undergraduate Research Fellow September 2022 - Present

- Integrate a Wi-Fi Sensing Payload using ROS with Pixhawk based drones.
- Write a paper, as the primary author discussing 3D printing and how it has been applied in the lab.
- Design a modular, customizable payload to equip drones with sensors and a Raspberry Pi.
- Present work at multiple local and national conferences.

Radiological Health Engineering Lab Ann Arbor, MI

Summer Research Fellow May 2023 - August 2023

- Designed and 3D printed custom parts for multiple projects, including with advanced materials.
- Developed C++ and Python code to link an Arduino Wi-Fi sensor to a Raspberry Pi by I2C for radiation emulation.
- Completed the initial electronics development for a lab made drone, including component selection, soldering, power distribution, and intercomponent communications.
- Presented work at the University Program Review (UPR) national conference.

Orchid Orthopedic Solutions Chelsea, MI

Manufacturing Intern June 2022 - August 2022

- Completed Inventory transactions to prepare materials for processing.
- Operated automatic push feed saw and CNC Lathe to prepare materials for machining.
- Documented process and quality checks to ensure no defect reaches the end user.

PROJECT EXPERIENCE

CactoFloat - Robotics Mechanisms Ann Arbor, MI

Team Member January 2023 - April 2023

- Built a functional prototype of a ballast based buoyancy engine controlled by a pressure sensor.
- Designed components with SolidWorks and Fusion 360 to allow control of the ballast using a motor.
- Programmed an Arduino to control the motor based on the data from a pressure sensor.
- Collaborated with a multidisciplinary team on multiple reports and presentations pertaining to the project.

Cube Sat - Stockbridge Special Projects Lab Stockbridge, MI

Team Lead August 2021 - May 2022

- Redesigned the 3D Model of the chassis to be manufactured via CNC milling, Laser Cutting, and 3D printing.
- Developed a curriculum centered around a Cube Sat for STEM outreach and education; Including wire diagrams, Animated 3D models to guide assembly, and applying the curriculum to students in our target age range.
- Filed intellectual property protections including copyright and trademark applications.

Emperor Micro Lander - Stockbridge InvenTeam Stockbridge, MI

Sustainability Lead August 2019 - June 2020

- Received a $10,000 grant from Lemelson MIT to design and build an underwater quality monitoring system.
- Created 3D models in Fusion 360 to 3D print and laser cut custom hardware to mount electronics.
- Completed electronics wiring and mounting, as well as the design and implementation of a burn wire system.
- Presented completed project in mid-grant technical review, obtaining feedback from target users, professors, and program administrators. Completed provisional patent application as a final progress report.