

Samit Mohapatra

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EDUCATION

University of Michigan, Ann Arbor, College of Engineering

Aug. 2022 – Present

B.S. in Electrical Engineering (Major); Computer Science (Minor)

Expected Graduation - May 2025

Cumulative GPA: 3.93/4.00

WORK EXPERIENCE

Follett Products LLC | Easton, PA

May. 2023 – Aug. 2023

Electrical Engineering Intern

- Worked with embedded software and programmed with ESP32 and Swift/SwiftUI softwares to facilitate a bluetooth connection between an iPhone (app that was built) and Follett ice machines, providing service employees with the ability to diagnose the condition of customer machines without the need to disassemble them, reducing time spent servicing by 50%.
- At the need of a large international beverage company, wrote an arduino program capable of requesting a byte stream from embedded software on Follett ice machine boards, unpacking it, and representing it in a readable format to a user
- Used EasyEDA circuit design software to create and order an LED breakout board that allowed for the optimization of the configuration of components inside existing machines, making manufacturing assembly easier
- Determined and compiled various functionality and language problems in a third party UI system to be put on a product with an upcoming launch date, allowing the third party to fix those errors so that the product could launch on time

Dynalene Inc. | Whitehall, PA

Jul. 2022 – Present

Research and Development Intern

- Designed, developed, and tested the software and electrical setup for a Cryostat, which automates the determination of the freezing point of various heat transfer fluids, reducing labor spent for testing by 80%.
- Collaborated to design and develop a sensor-fitted apparatus and DAQ system for the semi-continuous testing of ion-exchange resin cartridges that were manufactured to filter ions in fuel-cell vehicles and battery charging stations
- Determined the capacity of ion-exchange resin samples by analyzing the relationship between electrical conductivity and concentration of ions in solution
- Ran a suite of tests to measure the dimensions and hardness of around 50 plastic and rubber polymers after having soaked in heat-transfer fluids for varying durations and temperatures, and measured the pH and conductivity of the solution

ACADEMIC EXPERIENCES

Digital Theremin Project | The Pennsylvania Governor's School for the Sciences (PGSS)

Jun. 2021 - Aug. 2021

- Collaborated with other students from PGSS to design and develop a digital theremin (touchless musical instrument) from an Arduino microcontroller and a sensor suite
- Wrote and submitted a 65-page project report with team members; Successfully performed music with it, showing functionality to professional, familial, and peer audience in a virtual presentation

Computer Vision: Environmental Hazard Detection | AICamp.org

Dec. 2020 - Dec. 2021

- Collaborated with a team to harness a random forest machine learning algorithm to classify images of hazardous materials in the environment (plastic bottles, disposed batteries, oil cans) and built a website to display its capabilities

RELATED COURSEWORK

- Data Structures and Algorithms, Intro to Signals and Systems, Electrical Engineering System Design, Engineering Electromagnetics, Intro to Semiconductor Devices

SKILLS

- **Science & Technology:** Arduino - Advanced, Machining - Intermediate, Soldering - Advanced, DAQ - Beginner, Oscilloscope, Vector Network Analyzer Spectrophotometry - Advanced, FTIR - Advanced
- **Computer & Language:** Python - Intermediate (PyTorch), Java - Intermediate, C++ - Intermediate, MATLAB - Intermediate, LTSpice, Swift/SwiftUI - Intermediate, EasyEDA, Solidworks - Beginner, GitHub - Beginner, Linux - Beginner, Unity - Beginner, ProcessingJS - Intermediate, Javascript/HTML - Beginner, Excel - Intermediate, LaTeX, Blender - Beginner, Spanish (Conversational)

CLUBS & ACTIVITIES

- MRover: Developed and tested a rover for artificial mars landscapes as a member of the University of Michigan Mars Rover project team and Communications Sub-team Jan. 2023 – Present
- University of Michigan Quizbowl team member; Compete in tournaments to qualify for nationals throughout the year Sept. 2022 – Present

PATENT, AWARDS, & INTERESTS

Patent – Activated Carbon with Positive Surface Charge (no. 63/252,183)

Sept. 2021

- Filed provisional patent for novel method to create a positive surface charge on activated carbon for use in the filtration of negatively charged harmful pollutants like the herbicide Glyphosate

Awards

- National Merit Scholarship Finalist Jan. 2022
- Delaware Valley Science Fair Special Awards
 - National Oceanic and Atmospheric Administration (NOAA) "Taking the Pulse of the Planet Award" Apr. 2019
 - Ricoh Corporation "Ricoch Sustainable Development Award" Apr. 2019

Interests

- Soccer, Music Production, Health/Fitness, Sustainability, Reading (Classics/Fantasy), Gaming, Trivia