

Mohamad Ali Soueidan

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EDUCATION

University of Michigan

B.S.E. in Computer Engineering

GPA: 3.135 / 4.00

Coursework: Advanced Embedded System Design, Applied Parallel Programming, Computer Vision, Computer Security

Ann Arbor, MI

August 2022 – December 2027

SKILLS

Programming Languages: C++, Python, MATLAB, Rust, Simulink

Embedded Systems & Protocols: RTOS, STM32, SPI, I2C, UART, CAN

Tools & Frameworks: OpenCV, NumPy, Git, KiCad, LabVIEW, Excel

Hardware & Lab: Oscilloscopes, multimeters, soldering, system debugging

EXPERIENCE

TulipMMD, Startup affiliated with Ojeda Lab

Applications and Hardware Engineer

Ann Arbor, MI

July 2025 – Present

- Designed PCBs in KiCad for step-tracking module aiding Parkinson's motor-cognitive therapy
- Integrated firmware with actuator hardware and refined modular 3D-printed enclosures
- Debugged hardware/software interactions using oscilloscopes and soldering tools
- Wrote grant reports and technical docs supporting funding, compliance, and product use

Ojeda Research Lab – University of Michigan

Research Assistant, Embedded Hardware & Firmware Engineering

Ann Arbor, MI

May 2025 – Present

- Programmed STM32 in C++/Python for SPI, I2C, UART; verified comms and logged benchmark data
- Built MATLAB/Simulink scripts to align sensor data; ran tests achieving ~90% tracking accuracy
- Optimized sensor grid in MATLAB with trilateration, improving motion-tracking precision
- Authored reports for design reviews and validation docs for cross-functional engineering teams

Vector North America – Certified Embedded Associate (CEA) Summer School

Embedded Systems Student

Beirut, Lebanon

Jun 2024 – Aug 2024

- Completed AUTOSAR training on RTE, BSW, and MICROSAR, using DaVinci Developer & Configurator
- Designed software components, configured CAN, diagnostics, and NVM, and mapped tasks for ECU systems
- Gained hands-on experience with CAN, LIN, FlexRay, and Ethernet protocols in practical automotive exercises

PROJECT EXPERIENCE

Smart Watering System for Microgreen

Student

Ann Arbor, MI

January 2025 – April 2025

- Delivered market research and competitor analysis for polymer concrete, mapped pricing drivers and certifications
- Built an Excel based model for TAM and growth, produced GTM options and an entry roadmap
- Presented options and risk tradeoffs to executives, influenced next phase funding decisions

Plant Health Monitoring System

Student

Ann Arbor, MI

September 2024 – December 2024

- Developed Python application to classify plant health in vertical farms using OpenCV and NumPy
- Extracted features (gap fraction, curvature, angle) to improve early detection of deficiencies by 40%

LEADERSHIP EXPERIENCE

University of Michigan – Electrical and Computer Engineering Department

Departmental Ambassador

Ann Arbor, MI

August 2024 – April 2025

- Spearheaded ECE department representation at company visits with hardware and embedded systems firms
- Cultivated partnerships with Ann Arbor-based companies to enhance industry collaboration
- Coordinated departmental presence at public and private events to showcase ECE achievements