

Caleb Davis

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CalebDavis.me

[Major:](#) Computer Engineer

[PROJECTS](#)

Ohm Sweet Ohm — Smart Home RV System

- Designed and implemented an IoT-based smart home system for an RV to monitor gas levels, air quality, water pressure, and wastewater tank levels
- Integrated ESP32 microcontrollers with specialized sensors (load cell, ultrasonic, pressure, air quality) to collect and transmit data to a Raspberry Pi running a Flask dashboard
- Developed a touchscreen interface to display real-time sensor data and enable control of RV subsystems, such as awning and lighting, improving automation and user convenience
- Applied embedded systems, networking, and python programming to create a reliable monitoring system

AI Robot Dog — Autonomous Targeting System

- Built an AI-driven robotic dog running ROS (Robot Operating System), a Raspberry Pi, and an onboard camera to detect and track human targets
- Programmed computer vision algorithms to recognize a target, maintain aim at the chest, and control a mounted Nerf gun for automated firing
- Implemented real-time control and communication between hardware and software systems, showcasing robotics and Artificial Intelligence

FNDR DFNDR — Garage Parking Assistant

- Designed a parking assistance system using an Arduino Uno, ultrasonic sensor, potentiometer, LED strip and LCD display to ensure drivers safely park in tight garages
- Programmed the system to allow users to set target parking distance via the potentiometer, displayed in real time on the LCD screen
- Developed logic to switch LED strip from green to red when the vehicle reached the correct distance, mimicking a traffic light for intuitive user feedback
- Demonstrated proficiency in microcontroller programming, circuit design, and sensor calibration

[EDUCATION](#)

Mississippi State University — *B.S. Computer Engineering*

AUG 2022 - DEC 2024

Pearl River Community College — *Associates of Science*

AUG 2020 - MAY 2022

[EXPERIENCE](#)

Walmart Supercenter — Online Grocery Associate

2024 - 2025

- Coordinated and fulfilled customer orders with accuracy and efficiency demonstrating strong attention to detail and organizational skills
- Provided customer support by answering questions, locating items, and resolving issues
- Collaborated with team members to optimize workflow

Sonic Drive-In — Crew Leader

2018 – 2023

- Led and trained new employees, ensuring adherence to company standards and promoting a collaborative team
- Operated across multiple roles (cooking, prep, taking orders) to maintain flexibility and adaptability in a dynamic environment
- Demonstrated leadership and reliability by managing shifts and balancing efficiency with accuracy

[SKILLS](#)

- Python
- C/C++
- Verilog/HDL
- MATLAB
- Arduino/Raspberry Pi
- FPGA Design
- PCB Design
- Embedded Systems
- Linux & Git/GitHub
- Networking