

William Hallas

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EDUCATION

University of Michigan

August 2021–Present

- Bachelor of Science in Engineering - Electrical Engineering: Major GPA: 3.89
- Relevant Coursework: Electrical Systems Design, Systems and Signals, Circuits, Programming and Data Structures, Processor Structure and Organization, Digital Logic Design, Embedded Systems, Embedded Controls, Power Systems

PROJECT EXPERIENCE

Wearable Mouse Glove

November 2024–December 2024

- Designed and implemented a wearable glove that functions as a computer mouse using an IMU sensor for cursor control and force-sensitive resistors for click detection
- Integrated Bluetooth communication to transmit data from the glove to a computer
- Developed and programmed microcontroller C code to process FSR data, enabling features such as easy enable/disable functionality, scrolling, and sensitivity adjustment

Room Occupancy Sensing System

September 2023–December 2023

- Collaborated with a team to fully research and implement the system
- Developed a program in C to interpret time-of-flight sensor data to monitor a room's occupancy as people pass through a doorway in various scenarios with over 95% accuracy

UM Supermileage Project Team

September 2022–April 2023

- Contributed to the design and optimization of a electric motor for an energy-efficient vehicle
- Created and tested PCB for to monitor the current of each phase of a three phase motor for diagnostic purposes

EMPLOYMENT HISTORY

Gentex Corporation - Zeeland, MI

May 2024–August 2024

Vision Systems Intern

- Researched and implemented a solution to work around chip errata of a camera SerDes pair by integrating an FRAM chip along with I²C forwarding to make data transfer more robust
- Resolved a critical bug in graphics display pipeline on a custom development board, allowing for accurate color and transparency blending between overlapping overlay objects
- Programmed a feature in C to allow for the dynamic modification of pre-existing overlay images stored in ROM, significantly optimizing memory utilization

Vision Systems Intern

May 2023–August 2023

- Created a master/follower program to control backlight brightness over CAN using a Raspberry Pi
- Developed image post-processing algorithms in Python to account for distortions created by the camera lens
- Programmed, automated, and benchmarked an image quality testing lab to facilitate recreation of circumstantial scenes in a controlled environment

Lake Michigan Credit Union - Grand Rapids, MI

June 2022–August 2022

Teller

- Built and maintained client relationships through personalized interactions
- Assisted clients through monetary transactions and product queries
- Diligently referred and sold company products to clients based on individual circumstances

SKILLS

- Proficient in C++, C, Python, git, Arduino - Intermediate in HTML, Javascript, MATLAB, Verilog
- Fluent in Spanish, Michigan Alpine Ski Racing Team Captain