Noah Waldron

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EDUCATION

University of Michigan 09/2023 - 12/2024

M.S.E Electrical and Computer Engineering

- **GPA:** 3.66
- **Relevant Coursework:** Embedded Control, Computer Vision, Matrix Methods for Signal Processing, Data Analysis and Machine Learning, Engineering Interactive Systems for HCI, Mobile & Pervasive Sensing and Computing, Robot Kinematics and Dynamics
- **Extracurriculars:** IEEE Eta Kappa Nu (Electrical/Computer Engineering Honor Society)

Spring Arbor University 08/2019 - 05/2023

B.S. Electrical Engineering

- **GPA:** 3.97
- **Relevant Coursework:** Advanced Circuits, Digital Electronics, Electromagnetic Fields and Waves, Differential Equations, Electronics, Linear Algebra, Digital Signal Processing, Mechatronics, Entrepreneurial Design Thinking
- **Honors:** Summa Cum Laude, Engineering Departmental Honors

SKILLS

C/C++ | Python | MATLAB | Simulink | CAN | Arduino | MicroPython | Julia | CAD | FDM Printing | Laser Cutting

WORK EXPERIENCE

IoT Dual-Axis PV Tracking System – *Spring Arbor University, Spring Arbor MI* 05/2023 - 08/2023

- Published IEEE conference paper based on a control algorithm for solar tracking given elevation and azimuth angle
- Utilized MicroPython on Raspberry Pi for the IoT capabilities and to implement a user interface

Electrical Engineering Intern – *Avidhrt Inc., East Lansing MI* 05/2021 - 08/2022

- Built circuits for ECG standard testing in order to ensure FDA compliance with a medical device
- Operated oscilloscope and multimeter to compare medical device waveforms to ECG standards
- Utilized MicroPython to set up BlueTooth, WiFi, identify movement, save to SD card, and setup UI
- Integrated Pan Tompkins QRS detection algorithm to obtain user heart rate

CPS201 Lead Teaching Assistant – *Spring Arbor University, Spring Arbor MI* 08/2022 - 12/2022

- Managed two other TA's for multiple Python lab sections
- Helped students with minimal experience understand and implement programming concepts
- Gave mini-lectures and instructions to a class as well as provided one-on-one help

PROJECT EXPERIENCE

Solar Powered Motorcycle Senior Capstone – Team Project

- Collaborated on and maintained a 70+ page team report for senior design project
- Tested solar charging system for an electric motorcycle
- Presented and defended final project to department faculty, university advancement staff, and students

Adaptive Cruise Control Final Project – Team Project

- Implemented a Simulink control model that simulated a vehicle in MATLAB, controlled with a haptic wheel
- Used NXP microprocessor, PID controller, and Stateflow for Automatic Steering and Adaptive Cruise Control

Point and Segment VR Hand Tracking Final Project – Team Project

- Implemented three main computer vision techniques: hand detection, pose estimation, and segmentation
- Project was able to highlight an object in frame when a users hands are pointing at it, useful for VR applications

Remote Controlled Obstacle Avoiding Robot – Solo Project

- Online GTx course from the Georgia Institute of Technology
- Assembled, wired, and fully programmed a UART controlled robot that utilized bumper sensors and an ultrasonic sensor to detect obstacles. (CCS on MSP432)