

Easson Weisshaar



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Visit my website

Education

Electrical Engineering Honours Co-op BSc, *University of Waterloo*

Waterloo ON | Sep. 2021 – Apr. 2026

- GPA 3.7/4.0
- Electrical Engineering student communications coordinator, University of Waterloo Athletics

Electrical Design & BMS Software *Battery Workforce Challenge Team*

Waterloo ON | Jan 2024 – Sept 2024

- Redesigned BMS AFEs using Altium

ECE 298: Instrumentation and Prototyping Laboratory, *University of Waterloo*

Waterloo ON | May 2023 – Aug. 2023

- Embedded development, prototyping and debugging of electrical systems using oscilloscopes and multimeters

Experience

Electronic Reliability Engineer Co-op, *Ciena*

Ottawa ON | Jan 2025 – Current

- Automated various hardware testing systems using JavaScript, C++, and Python

Electrical Engineering Intern, *Wrmth*

North Bay ON | May 2024 – Aug. 2024

- Designed and assembled a **PCB and electronic system** for quality assurance testing through multiple design iterations
- Electrical systems **validation** for various in-house components including PCBs, power supplies, and products
- Implemented **C/C++ programming** for quality control applications, and sensors for monitoring wood-steaming
- Interpreted complex component **datasheets** to accurately implement and calibrate thermistor-based measurement systems
- **Led** a cross-functional team to develop and launch new products for a major international trade show on a tight timeline
- **Documented** the engineering design process for seamless hand-off to subsequent teams
- **Soldered** and assembled key electrical components for product assembly

Software Quality Assurance and Automation Specialist, *Siemens Healthineers*

Ottawa ON | Sep. 2023 – Dec. 2023

- Engineered comprehensive **automation testing** frameworks for medical devices using Python
- Conducted rigorous **QA testing** on medical hardware and software components, supporting cross-functional development teams
- **Triaging** failed automation test cases from Jenkins and implanted software patches

Junior Frontend Developer, *Claero Solutions*

Calgary AB | Jan. 2023 – Apr. 2023

- Collaborated in a small team under tight timelines to provide client deliverables on the company's primary projects
- **Version control** using SVN and Git version controls

Data Analyst Intern (Capital Projects and Marketing), *Tidewater Midstream*

Calgary AB | May 2022 – Aug. 2022

- Scripted using **Python** and **VBA** to improve workflow and optimize daily team tasks
- Worked in cross-functional teams to research feasibility of prospective projects

Skills

Hardware: Altium, Proteus, LTSpice, Keysight ADS, Soldering, Test Equipment, STM32, Signal Theory

Software: Embedded C, C/C++, Python, Linux, Git, MATLAB, JavaScript, UART, SQL, AWS

Interests: Hockey, RF Engineering, Data driven sports (specifically hockey), Lacrosse, Medical Technology, World Geography

Projects

Electrical Components QC Device

North Bay ON | May 2024 – Aug. 2024

- Designed and optimized a custom PCB using **EasyEDA**, iterating multiple prototypes to optimize performance and reliability
- Refactored existing firmware, resulting in an 80% reduction in testing cycle time, significantly improving production efficiency
- Executed precise schematic entry and PCB layout designs, optimizing circuit performance

Reservoir Control System Simulation

Waterloo ON | June 2023 – July 2023

- Developed water reservoir system using **embedded C**, Proteus PCB layout & schematic, STM32, and signal theory
- Writing and debugging embedded STM32 firmware
- Board validation and board assembly using reflow soldering and through-hole components

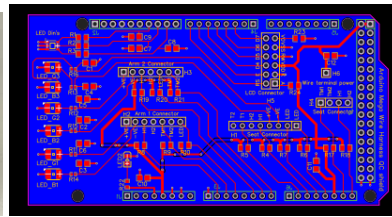
Interactive Escape Room

Waterloo ON | Sep. 2021 – Dec. 2021

- Developed embedded escape room puzzle with **Embedded C/C++**, STM32, sensors, and circuitry

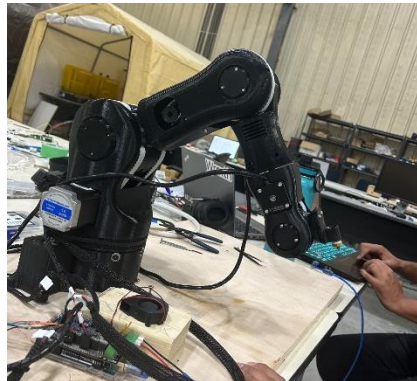
Electrical Components QC Device

- Developed an electronic device initially designed for testing wiring harnesses, with expanded capabilities to test additional electrical components of in-house products.
- Designed a PCB using EasyEDA after extensive testing and redesign of the prototype.
- Updated existing C++-based firmware, reducing the testing cycle time to 20% of the initial run time.
- 3D-printed the device enclosure.



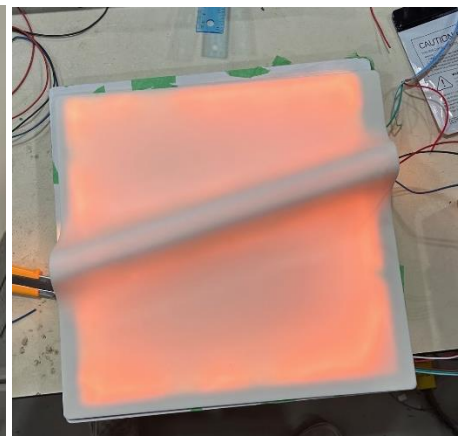
N.E.A.R Bot Arm

- Modified an open-source 5 degrees of freedom (DoF) robotic arm to function as a concrete 3D printer.
- Designed the electrical system for the arm by selecting appropriate power supplies, calibrating stepper drivers, and setting up stepper motors.
- Assembled the system using in-house resources.



Haute Wall Light

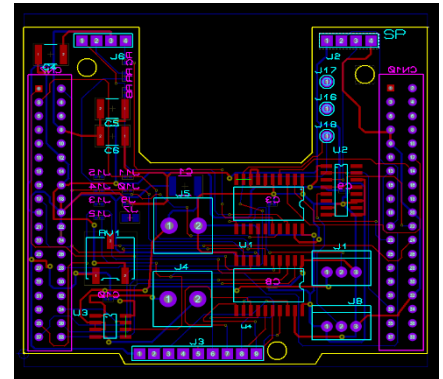
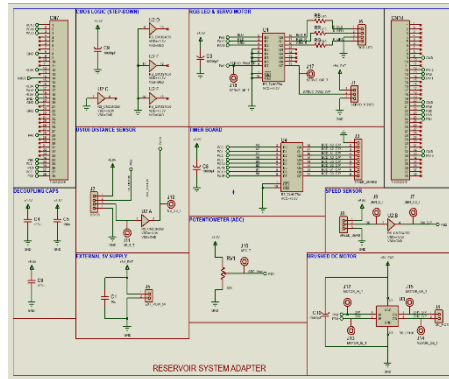
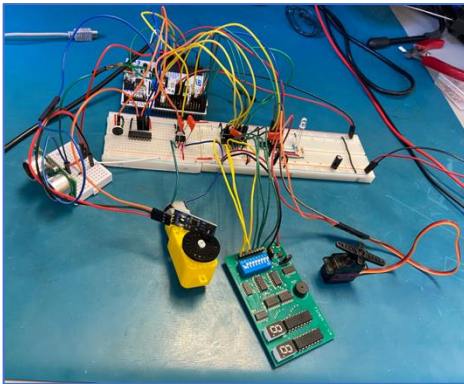
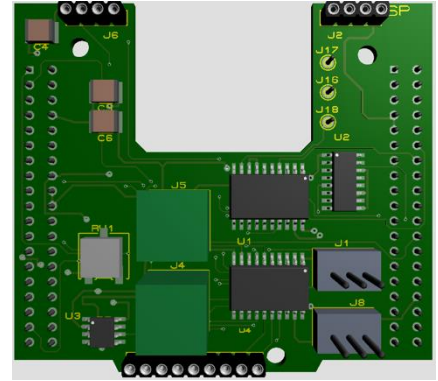
- Developed an outdoor luxury lighting fixture to be show cased at an international trade show based on renderings
- Repurposed ESP32-based hardware from other products and updated existing firmware to achieve different lighting effects



Reservoir Control System Simulation

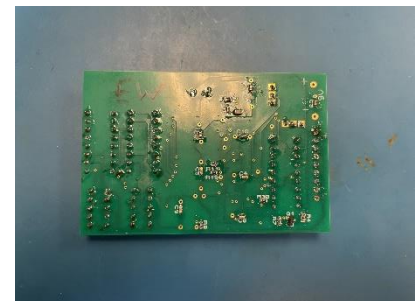
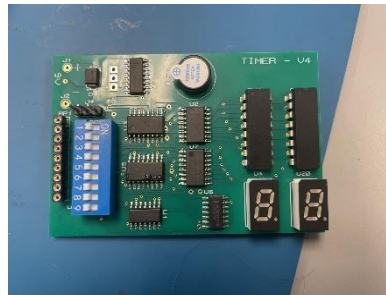
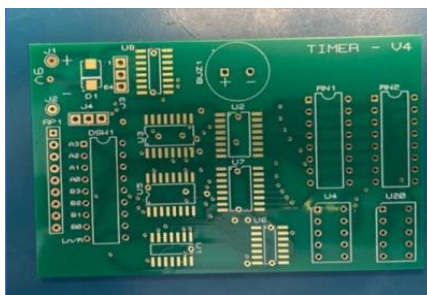
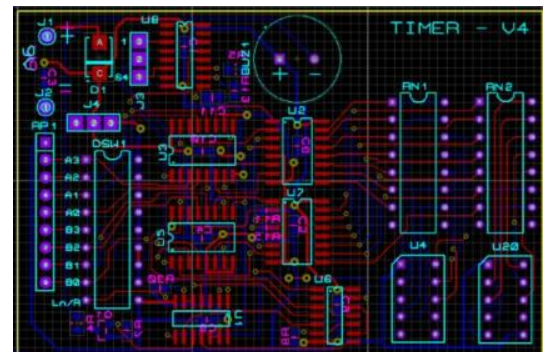


- Designed, wired, and tested **circuitry**. Performed component selection and optimization.
- Developed **embedded C/C++** on **STM32 F401RE microcontroller** to control water reservoir simulation.
- Setup communication system with peripherals using **USART** and signal level modulation to interface with a variety of **components, sensors, and actuators**.
- Designed circuit schematics and multi-layer **PCB** using **Proteus** and **SPICE**.



Digital Timer PCB

- Soldered a variety of circuit elements, IC's, surface-mount, and passive components using through-hole, reflow, and surface mount techniques.
- Tested PCB using a variety of in-lab test equipment, including oscilloscopes and DMMs
- Utilized provided Proteus layout to implement PCB.
- PCB board validation via circuit probing



Engineering Portfolio (3/4)

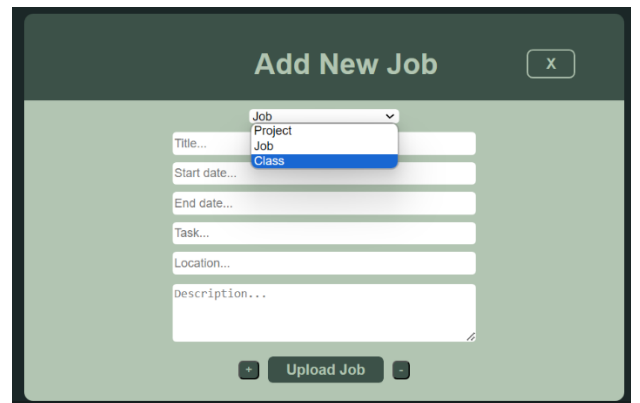
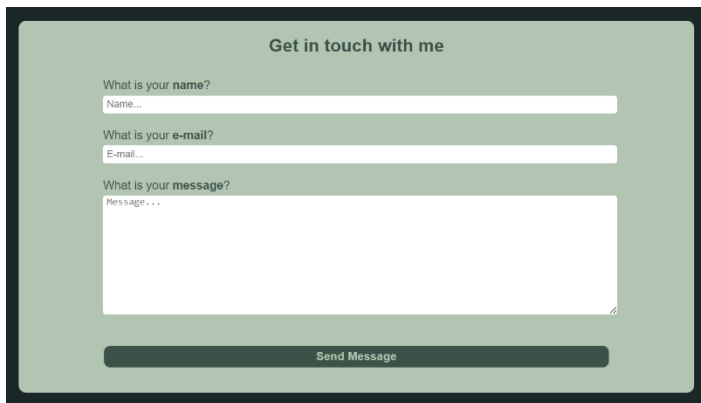
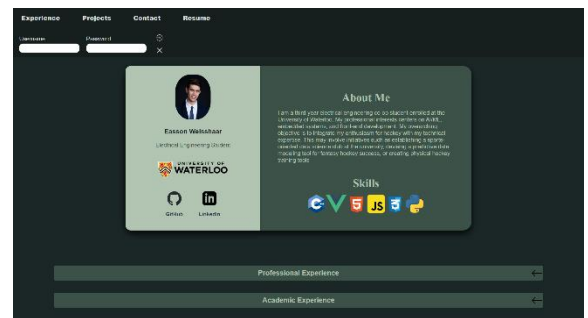
Backend Precondition Generator

- Developed **API** using combination of **Python**, **Pytest**, **JavaScript**, **Bash**, and the **Realm Database SDK**.
- Allows for the ability to extract and manipulate **Android** PDA databases
- **Reduced** test suites runtimes by numerous hours
- Integrated **API** into the **BDD** test framework for simplified usage among QA team

Vue.js Portfolio Web Application

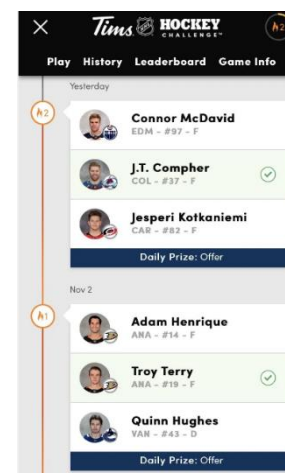
- Portfolio web application created from scratch using the **Vue.js** framework, along with **HTML**, **CSS**, and **JavaScript**
- Created an **AWS REST API** using **Node.js Lambda functions**, and **DynamoDB** to allow the dynamic updating of professional, academic, and project experience
- Developed a server-side authentication system
- Tested **POST**, **GET HTTP** methods using **Postman**
- Created an “message me” section using **AWS Simple-Email-Service**

(currently unlaunched, please request a demo)



Tim Horton's NHL Challenge Tool

- Created a text SMS service to communicate the most probable picks on a given day
- Created using **Python** based **Selenium**
- Text SMS sent through the **Twilio API**
- Script hosted through an **AWS EC2** instance



Robotic Grappler Controller

- Developed VHDL software to control Altera MAX10 FPGA, extending robotic arm two-dimensionally.
- Designed state-machine driven grappler, extender, one-directional controller.
- Integrated manual slide switches for user selected two-directional coordinates for grappler placement
- Utilized a seven-segment LED to display real-time XY coordinates to the user.

