

LUCAS CRASTON

Computer Systems Engineering at Carleton University

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🌐 Website

SELF FUNDED PROJECTS

Off Grid Irrigation System Version 2

📅 Summer 2021, 2022

- Built and programmed a smart garden timer that manages the distribution of water and nutrients to plants, allowing users to automate their garden and reduce water waste by **80 percent**
- Version 2 incorporates a **custom PCB** and eliminated all pre-built modules. Using discrete components and new software reduced power consumption by **100X**

Lab Equipment Automation

📅 Winter 2021–Present

- Designing **Python** scripts to automate the use of lab gear such as **oscilloscopes** and **power supply's**, allowing users to cycle and test batteries up to **50 percent** faster
- Using **NI-VISA** as a back end to send **SCPI** commands to the instruments, allowing users to set custom trigger and channel options remotely
- Analyzing incoming measurement data and plotting it in **MATLAB** for easy examination

iPhone, Android, Laptop and PC Repair

📅 2018–Present

- Troubleshooting Apple, Windows, and Android devices to find the most cost effective repair and replace all serviceable components
- Reducing electronic waste by fixing **100 percent** of devices to date and selling them for a profit

Homemade Radio Transceiver

📅 Fall 2021

- Created a radio receiver and transmitter controlled by a **Microcontroller** with a range of 1100m to use in drones and RC cars for land surveillance
- Designed, assembled, and tested a **PCB** from scratch to reduce size and improve the usability of the product

Arduino Temperature and Humidity Shield

📅 Spring 2021

- Designed and assembled an Arduino Uno **PCB shield** that uses LEDs to display the temperature and humidity
- Programmed the Arduino Uno using **C++** to read the sensor values and relay the information to the display

EDUCATION

- Bachelors of **Computer Systems Engineering**
- COOP student: available **4-12 months**, full time starting January 2023
- Deans list with 10.25/12 GPA
- Entry level scholarship

EXPERIENCE

Hardware Engineer

Ford Motor Company

📅 May 2022 – August 2022 📍 Kanata, CA

- Designed, tested, and characterized DC-DC power supplies and power delivery systems for the new FNV and SYNC platforms
- Performed worst-case circuit-analysis on power electronics to verify components for use in new designs
- Automated the power teams testing suite with python to eliminate manual testing, increase measurement accuracy, and reduce verification time by weeks

Computer Sales Advisor

Best Buy

📅 Oct 2019 – Oct 2020 📍 Ottawa, CA

- Provided accurate and economical hardware and software recommendations to clients by remaining up-to-date on new hardware and software releases
- Developed persuasive communication skills by providing exceptional customer service which resulted in being one of the top part-time sales advisors with over **\$1000/hour** average sales

Office Administrator

Beaver Boxing Club

📅 2018 – 2020 📍 Ottawa, CA

- Managed membership sales and provided program recommendations to new customers
- As a youth boxing mentor and **team Ontario athlete**, I helped guide and teach new members while modelling leader behavior

TRANSFERABLE SKILLS

- Leveraged my fantastic interpersonal skills and bilingualism to proficiently communicate with clients and teams members to complete tasks and meet objectives.
- Developed excellent problem solving skills to effectively test and measure circuits with equipment such as oscilloscopes, multi-meters, and power supplies.
- Solved **C/C++** and **Python** programming problems to implement new embedded systems designs.
- Created a passion for engineering and electronics by pursuing my own projects and taking initiative on implementing and completing goals.
- Developed versatile set of skills by working independently and in groups, allowing me to be an asset to any team or handle individual assignments.
- Experience with **Linux**, **LaTeX**, and **Git** for version control.