

Joel Weber

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EXPERIENCE

GREENTRONICS LTD. | JUNIOR EMBEDDED ENGINEER

May – Aug 2024 (40 h/wk) Sept 2024 - Present (5 h/wk) | Elmira, ON

- Developed realtime graphical features for embedded C isobus touch screen display.
- Built raspberry pi based 3D camera application for data collection in agricultural applications.
- Worked collaboratively on C++ based 3D image processing system for monitoring crop yeild.

WILFRID LAURIER UNIVERSITY | TEACHING ASSISTANT

Sept 2024 - Present (10 h/wk) | Waterloo, ON

- DATA-100 (Data science 1): Helped, oversaw and graded student assignments doing exploratroy data analysis in R
- MA-101 (Calculus for Science Students): Collaborated with a team of 6 other TAs to coordinate and grade the MA-101 lab assessments.
- PC-142 / 132 (Thermodynamics and waves): Oversaw and graded both lab and tutorial sections for thermodynamics and waves courses.

BOSTECH MECHANICAL LTD. | HVAC TECHNICIAN

June 2022 - Sept 2024 (44 h/wk) | Listowel, ON

- Designed, installed, and serviced various heating, cooling, and ventilation systems.
- Became adept with power and hand tools for sheet metal, plumbing, carpentry, and electrical.
- Specialized in ground and air source geothermal heating systems for both commercial and residential applications.

AGRIBRINK LTD. | AIR SYSTEMS TECHNICIAN

June 2020 – June 2022 (40 h/wk summer 10 h/wk during school) | Arthur, ON

- Helped design, fabricate and install compressed air systems on large agricultural machinery, working with air, hydraulic, mechanical, structural and electrical systems.
- Manufactured metal brackets and fittings for mounting air compressors, tanks, and other components.

PROJECTS

REAL TIME CROP ROW RECOGNITION | PRIMARY ENGINEER

Jan 2019 – Present | Listowel, ON

- Developing a 3D camera system to develop crop rows in organic fields in real time and shift a cultivator to uproot weeds and avoid crops.
- Using a raspberry pi and realsense D455 3D camera to detect the rows and control tractor electronics.
- Working with a farmer to collect data, develop, and test the product.

COMPLETE 3D PRINTER BUILD | MY CURIOSITY PROJECT

Jan 2023 – Aug 2024 | Listowel, ON

- Made 3D printer chassis and mechanical hardware from sheet metal and salvaged materials.
- Used the opensource Arduino Marlin software and Arduiono mega to read G-Code and control the stepper motors.
- Using Cura and Fusion 360 to make and design prints.

EDUCATION

WILFRID LAURIER UNIVERSITY

BACHELOR OF SCIENCE IN
COMPUTER SCIENCE AND PHYSICS
WITH MINOR IN MATHEMATICS
Started Sept 2023 | Waterloo, ON
Dean's List (All Semesters)
Cum. GPA: 12.0 / 12.0

SKILLS

PROGRAMMING

3+ years:

Python • C/C++

1+ years:

R • JavaScript

Maple • Mathematica

0+ years:

Matlab • Bash Scripting

TECHNOLOGY

Git/Github • OpenCV • Linux

UNIX • Windows • Embedded Systems

Scientific Computing • Multithreading

COURSEWORK

UNDERGRADUATE

Calculus I-IV

Data Science I

Scientific Computing

Linear Algebra and Signal Processing

(MIT *opencourseware*)

Electricity and Magnetism

Thermodynamics and Waves

Optics

SOCIETIES

Laurier Chess Club

Laurier Physics Student Initiative

LINKS

Github: [joelweberdev_gh](#)

LinkedIn: [joelweber_linkedin](#)

Portfolio: [joelweber_portfolio](#)