EMILY BUGEJA

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EDUCATION

Bachelor of Applied Science *Queen's University*

- Studying Electrical Engineering at Queen's University.
    - Coursework: Data structures, electronics and sensors, microcontrollers, probability and statistics, signal processing, machine learning, linear controls.
- Expected graduation year, 2022

EMPLOYMENT

Research Assistant *Offroad Robotics Group, Queen's University* – May-Aug 2021

- Helped develop a robot to autonomously lay fibre optic cable along railways.
- Designed a control system to feed fibre while dispensing glue based on robot base speed.
- Wrote computer vision code to inspect fibre installation and collect other data.

APSC 200/293 TA *Queen's University* – Jan-Apr 2021

Electronics Intern *Nuytco Research Limited* – May-Aug 2020

- Worked on a variety of projects in the sub-sea industry including product assembly and prototyping/research and development.
- Developed an electronically controlled version of a "Prehensor" robotic hand based on an existing mechanical prototype.
- Designed physical prototypes in AutoCAD and used CNC routing, 3D printing and basic shop tools to assemble, designed PCBs in Eagle, used Visual Studio, PIC microcontrollers and servomotors to model and program robotic prototypes.

SKILLS

Programming Languages/Hardware

- *Fluent:* C, C++, C#, Python, ROS, PIC Microcontrollers, MPLAB IDE, Arduino Microcontrollers, Linux/Ubuntu, MATLAB, Simulink.
- *Familiar:* OpenCV, Java, HTML, CSS, Assembly, Raspberry Pi, NIOS II, VHDL, UART protocols.

Other Skills

- Experienced with 3D printing, Laser Cutting, CNC Routing, CAM software (ArtCAM, Inkscape), CAD Design (AutoCAD, SolidEdge), PCB Design (Eagle, KiCAD), Visual Studio, circuit simulation (ADS).