Connor Sequeira

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KEY COMPETENCIES

Programming & Software

C++ | Python | JavaScript | HTML | CSS | MATLAB | Verilog | VHDL | ROS2 | Machine Learning | PyTorch | Docker

Embedded & Hardware Systems

STM32 | Arduino | Raspberry Pi | FPGA | RTOS | Circuit Analysis | PLC Programming | I2C

Robotics & Engineering Tools

Robot Programming | SolidWorks | AutoCAD | FEA | MATLAB Simulink | Gazebo | RViz | PLC Systems | Control Theory | EtherCAT

PROFESSIONAL EXPERIENCE

Robotics and Automation Intern   May 2025 - Aug 2025
A Berger Precision

Installed and programmed a FANUC CRX-5iA robot for an AI-powered inspection cell, including integration with safety systems.

Constructed logic for Mech-Mind 3D camera system and integrated machine learning algorithms to enhance functionality, resulting in a 60% reduction in part mispicks during operation.

Contributed to the development, training, and optimization of an AI-based inspection system, capable of detecting surface defects as small as 50 microns.

Engineering Analyst   Sep 2024 - Dec 2024
A Berger Precision

Developed and debugged program for UR5e in pick-and place application, optimizing cycle time from 21.3s to 6.7s.

Designed 3D models in SolidWorks, applied FEA, and prototyped via 3D printing, improving tool life and cutting downtime by 87%.

Developed PLC logic for palletizing and vision inspection, optimizing sensors, switches, and parameters to cut faults by 95%; created base code and flowcharts for future AI integration.

Engineering Assistant   Jan 2024 - Apr 2024
Armacell Canada

Designed printer mount using SolidWorks for product traceability that meets operating and safety demands

Created cost/benefit analysis, risk assessment, and project report using calculated and gathered data to propose solution to leaking blender machines

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PROJECTS   connorsequeira.com/portfolio

PrecisionMOTION
Functioning replica hand that mimics user inputs.

Skills Used: **C++, SOLIDWORKS, 3D Prototyping, Arduino, Sensors and Servos**

AUTOlathe
Model lathe designed to carve user drawn profiles.

Skills Used: **RobotC, SOLIDWORKS, Mechanical Design Principles, Sensors and Servos**

TRON Haptics
Wearable glove that dynamical adjusts resistance to simulate touch sensations in the VR world.

Skills Used: **Python, C++, OpenCV, Embedded Systems, 3D Printing & Prototyping, Mechanical Design**

Gestura
IMU-controlled drone that attaches to the body and translates hand movements into intuitive flight control.   **Project currently in development.**

Skills Used: **C, Python, Embedded Systems (microcontrollers, IMU integration), Motor Control & Robotics, LBE , Control Systems, 3D Printing & Prototyping, Hardware–Software Integration**

EDUCATION

BaSC Mechatronics Engineering   University of Waterloo, expected in 2028
Minor in Artificial Intelligence