

## Juan Pablo Becerra-Padilla

Mississauga, ON

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### OBJECTIVE

Mechatronics Engineering student seeking a 4 to 12 month co-op in embedded systems. Brings hands-on experience with firmware development, hardware testing and validation, instrumentation, and troubleshooting, with a strong commitment to safety, quality, and continuous learning.

### TECHNICAL SKILLS

**Testing & Debugging:** Oscilloscope, logic analyzer, multimeter, signal generator, bench testing, circuit and software debugging

**Hardware & Circuit Design:** Schematic/datasheet interpretation, PCB layout, assembly, and soldering

**Programming & Tools:** C/C++, Python, MATLAB, Git, Bash

**Embedded Systems:** Microcontroller programming, Serial communication protocols, driver development

### EDUCATION

**Bachelor of Engineering - Mechatronics Co-Op**

*April 2027 (Expected)*

*Humber Polytechnic, Etobicoke, ON*

- Consistently achieved Dean's Honour List since first semester
- **Highlighted Courses:** PLCs, Digital Electronics, Electric Circuit Analysis, Control Systems, Microcontrollers, Electric Motors, Instrumentation and measurement.

### PROJECTS

**Autonomous Box Cartoning Machine**

Sept 2023 – Apr 2024

- Led team of 3 to deliver automated prototype, writing firmware in C for sensor integration and control logic
- Performed integration testing across pneumatic, electrical, and firmware subsystems for reliable operation
- Implemented pneumatic actuation system using solenoids, vacuum generators, and flow control valves

**I2C/SPI-to-UART Bridge Driver (SC16IS740)**

June 2025

- Developed modular driver for NXP SC16IS740 bridge with portable interface design
- Conducted systematic validation using loopback tests, integration testing, and logic analyzer verification
- Abstracted low-level I2C/SPI operations, enhancing code debuggability and maintainability for complex embedded systems

### WORK EXPERIENCE

**Printer Operator | RMAC Surgical Inc., Etobicoke, ON**

October 2023 – June 2024

- Troubleshoot printer and quality issues in a production environment
- Performed peel tests, alignment checks, and filled out QA documentation
- Balanced work hours with school showing reliability and discipline

**Deli Clerk | Sobeys, Mississauga, ON**

October 2020 – December 2021

- Trained new team members and handled customer inquiries
- Maintained a clean, organized work area

### INTERESTS AND ACHIEVEMENTS

- Awarded Computer Engineering Technology Award in 2021
- Won Best Mobile App Award at UTM Appathon in 2019
- Participated in Programming and Gaming Club in high school
- Interests include building computers, hobby electronics and instruments