

VINCENT HY

Mechatronics Engineering Graduate

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Ontario, Canada

SUMMARY

Mechatronics Engineering Graduate with 7+ years at Ontario Power Generation designing safety-critical control systems for nuclear infrastructure. Bridges industrial automation (PLC, SCADA, LabVIEW) with modern software practices — from embedded firmware to real-time web dashboards.

EXPERIENCE

Ontario Power Generation

2024 – Present

Technical Officer · Ontario, Canada

- Design and maintain LabVIEW control software and operator GUIs; perform code reviews and reverse engineering of legacy control applications to improve maintainability and system reliability.
- Develop and review industrial control software including PLC ladder logic (IEC standards) and SCADA HMI interfaces.
- Author test plans, procedures, and test vectors to support system verification and validation; conduct field walkdowns.
- Serve as technical point of contact for plant computer vendors, coordinating procurement and technical requirements.
- Design and support plant control systems comprising of 500+ I/O channels for real-time monitoring and operation of nuclear generation infrastructure.

Ontario Power Generation

2019 – 2024

Assistant Technical Officer · Ontario, Canada

- Designed, developed, and maintained LabVIEW GUIs, PLC ladder logic (IEC), and plant application code including legacy reverse engineering.
- Prepared and verified engineering documentation: electrical drawings, cable schedules, and engineering change packages.
- Validated engineering designs through field walkdowns, on-site verification, and system performance testing.

Ontario Power Generation

2023

Outage Control Center Engineering Representative · Ontario, Canada

- Coordinated cross-functional engineering support during plant outages; triaged and routed issues to appropriate disciplines.
- Maintained real-time outage engineering activity log and facilitated structured shift turnovers for continuity of support.

Ontario Power Generation

2017 – 2018

University Student Intern · Ontario, Canada

- Engineered a LabVIEW application to control and monitor 500+ I/O channels for real-time data acquisition and diagnostics.
- Architected an NI-based test platform simulating nuclear reactor rod control behavior for system validation and integration testing.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C++, SQL

Automation & Controls: PLC (IEC Ladder Logic), SCADA, LabVIEW, HMI Design, Modbus/TCP, OPC UA

Web & Software: React, Node.js, WebSockets, HTML/CSS, Git, Docker, Linux, AWS, CI/CD

Domain: Nuclear plant systems, radiation monitoring, thermal performance, control system V&V

SELECTED PROJECTS

Industrial Monitoring Dashboard *React · Node.js · WebSockets*

Real-time telemetry hub aggregating factory floor PLC metrics into a unified web interface with high-availability web services (2023).

Modbus Gateway *C++ · Modbus · Embedded*

High-reliability hardware interface bridging legacy field protocols with modern industrial Ethernet networks (2026).

GM Capstone: Tire Unloading Redesign *C++ · Mechanical Design · Automation*

Redesigned GM's industrial tire unloading system to eliminate conveyor belt damage from horizontal forces during assembly (2019).

EDUCATION

Ontario Tech University

2014 – 2019

B.Eng. Mechanical Engineering — Mechatronics, Robotics & Automation