

# Hussein Al-Ansari

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## TECHNICAL SKILLS

- **Automation & Controls:** PLC Programming (Rockwell, Siemens, Schneider, Omron), HMI Development, SCADA/MES (Ignition, WonderWare), Motion Control
- **Electrical & Design:** EPLAN, AutoCAD Mechanical & Electrical, SolidWorks, Electrical Schematics, Panel Design, BOM Development, Control Panel Layout & Enclosure Design, Power Distribution & Protection Systems, Safety Circuit Design, Component Selection & Sizing (motors, drives, breakers)
- **Programming:** C/C++, Python, SQL, VBA, HTML/CSS, VHDL/Verilog
- **Tools:** Studio5000, TIA Portal, FactoryTalk View ME/SE, LabVIEW, MATLAB, Arduino, ROBOGUIDE, Emulate3D, Factory I/O

## EDUCATION

**Bachelor of Technology in Automation Systems Engineering (Co-op), Industrial Systems Specialization** Dec. 2025  
*McMaster University* Hamilton, ON

**Advanced Diploma in Chemical Engineering, Process Automation** Dec. 2025  
*Mohawk College* Hamilton, ON

## RELEVANT PROFESSIONAL EXPERIENCE

**Electrical Designer** Jan. 2026 – Present  
*Eclipse Automation* Cambridge, ON

- Engineered industrial electrical control systems using EPLAN, delivering detailed schematics, wiring diagrams, and panel layouts compliant with CSA, UL, NFPA, and IEC standards.
- Selected and sized PLC hardware, servo drives, motors, safety components, and power distribution systems for automated manufacturing applications.
- Led cross-functional collaboration with mechanical, controls, and commissioning teams to deliver automation systems across full project lifecycle, including design reviews, FAT, and site integration.
- Performed SCCR, voltage drop, load, and cable sizing calculations to support safe and compliant power distribution

**Teaching Assistant** Sept. 2024 – Dec. 2025  
*McMaster University* Hamilton, ON

- Instrumentation & Control, PLC Programming, and Advanced PLC Programming.
- Facilitated tutorials and office hours while evaluating assignments, labs, and exams.

**Controls Hardware Designer (Co-op)** May 2025 – Aug. 2025  
*Eclipse Automation - Part of Accenture* Cambridge, ON

- Engineered electrical hardware solutions for automated manufacturing systems, ensuring compliance with NFPA, CSA, and relevant safety standards
- Performed component sizing, short-circuit and thermal calculations, and integrated robots, motion systems, sensors, and vision technologies into cohesive automation designs
- Developed detailed electrical schematics and documentation in EPLAN, supporting system integration, commissioning, and on-time project delivery

**Controls System Specialist (Co-op)** Jan. 2024 – Aug. 2024  
*RidgeTech Automation* Cambridge, ON

- Engineered PLC and HMI solutions across Rockwell, Siemens, and Schneider platforms, supporting development of industrial automation systems.
- Designed electrical and fluid power systems using EPLAN and AutoCAD, while contributing to SCADA/MES implementations using Ignition and WonderWare for real-time monitoring and integration
- Programmed and commissioned industrial robots (ABB, FANUC), supporting deployment of fully integrated automation solutions

**Engineering Assistant (Co-op)** May 2023 – Aug. 2023  
*Cooper Standard* Stratford, ON

- Designed industrial plant layouts using AutoCAD, optimizing space utilization and supporting efficient workflow and equipment placement
- Reverse engineered mechanical components and assemblies in SolidWorks to support manufacturing, maintenance, and system integration requirements
- Conducted material audits to verify component compatibility and ensure accurate part selection, supporting reliable system functionality and integration

## RELEVANT PROJECTS

**Drinkify — Capstone** Jan. 2025 – Dec. 2025

- Designed and prototyped a modular, IoT-enabled soda dispensing system using Arduino-based control, solenoid valves, and thermoelectric cooling, enabling precise mixing of syrup and carbonated base within a \$600 cost constraint
- Developed and integrated HMI and sensor systems for real-time inventory monitoring, temperature control, and user interaction, improving system automation and operational efficiency