

Mariam Bastami

Controls & Automation Engineer

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PROFESSIONAL SUMMARY

Controls and automation engineer with 7+ years of experience in industrial control systems, PLC programming, and communication protocols. Hands-on expertise with Allen-Bradley/ControlLogix PLCs (Studio 5000/RSLogix 5000), industrial communication protocols (Modbus, Ethernet IP, CIP, OPC), and automated test development. Experienced at Rockwell Automation testing ControlLogix and AADvance systems. Strong software development background in C++ and Python, combined with the ability to read schematics and troubleshoot hardware/software at the system level.

CORE COMPETENCIES

PLC Platforms	Allen-Bradley ControlLogix / SLC 500, RSLogix 5000 / Studio 5000 (Rockwell)
HMI	Factory Talk View; Rockwell Automation software suite
Comm. Protocols	Modbus, Ethernet/IP, OPC, CIP, TCP/IP, SNTP, Profibus
Languages	C++, Python, Java, JavaScript
Networking	Cisco switches (basic config), TCP/IP networking, Wireshark analysis
Testing & Debug	Manual & automated testing, hardware troubleshooting, software debugging, regression testing
Tools	LabVIEW (CLAD certified), GitLab, JIRA, qTest, Postman, Visual Studio
Project Mgmt	Requirements gathering, documentation, cross-functional collaboration, training material creation

PROFESSIONAL EXPERIENCE

System Tests Developer | Rockwell Automation

April 2022 – October 2025

Montreal, QC | Testing & Validation of Allen-Bradley Control Systems

- Performed manual and automated testing of Allen-Bradley ControlLogix and AADvance Fault Tolerant Control Systems using Studio 5000 / RSLogix 5000 environment.
- Validated industrial communication protocols including Modbus, Ethernet/IP (EIP), CIP, SNTP, and TCP/IP to ensure system interoperability and specification compliance.
- Developed Python scripts and LabVIEW (CLAD certified) test suites to automate validation workflows, reducing manual testing time by 25%.
- Designed and implemented automated test cases using Python with Tatum/Veripy frameworks for comprehensive ControlLogix system verification.
- Created a Python tool to replace the IENetP Test Tool for Wireshark network capture analysis, streamlining protocol-level troubleshooting.
- Collaborated with firmware and hardware engineering teams to conduct regression testing, ensuring firmware updates did not compromise PLC behavior.
- Documented test requirements extracted from engineering specifications and user problem descriptions; maintained traceability in Jama/qTest.

Technical Support Analyst | Axiell Group

November 2020 – April 2022

Ottawa, ON | Software Support & Troubleshooting

- Troubleshoot and resolved complex software issues for museum management systems; utilized SQL for database queries and user access management.
- Fixed Crystal Reports formatting defects, improving reporting accuracy by 30%; collaborated with developers to document root-cause findings.
- Managed issue tracking and documentation using Hornbill Ticketing System on Oracle/Linux infrastructure.

Contract Technical Roles | Various Clients

November 2018 – December 2019

Ottawa, ON | IVR Development & IT Support

- Developed and tested IVR workflows using YAML/Groovy for API-driven election tracking application; validated against client specifications with Postman.
- Provided Level 1 IT support for the Global Case Management System (GCMS); performed issue analysis, ticket routing, and new-staff training.

CS-01 IT Analyst | Canada Revenue Agency

August 2016 – October 2017

Ottawa, ON | IBM FileNet Content Management

- Supported IBM FileNet web-application; led requirements gathering sessions with stakeholders to extract, document, and implement process improvements.
- Developed and delivered training manuals and reports on data storage and license usage; presented findings to management.

Technical Business Analyst | Autocene

April 2015 – August 2016

Ottawa, ON | Process Automation & Reporting

- Designed custom content management and workflow automation solutions using Microsoft InfoPath within Outlook/Exchange environment.
- Analyzed structured form data and delivered tailored reporting solutions using Microsoft SQL Server and Visual Studio.

EDUCATION

M.Eng. in Electrical and Computer Engineering — University of Ottawa (2015)

B.S. in Electrical Engineering — Rafik Hariri University (2013)

CERTIFICATIONS

- Certified LabVIEW Associate Developer (CLAD) — National Instruments, February 2025
- Oracle Certified Professional: Java SE 17 Developer — April 2023
- Oracle Cloud Infrastructure Foundations Associate — December 2021

ADDITIONAL

Languages: English (Fluent), Arabic (Fluent), French (Advanced)

Security Clearance: Government of Canada Reliability Status