Girshat Nanda

JUNIOR ELECTRICAL/ CONTROLS ENGINEER - Testing, Troubleshooting, PLC & HMI Programming

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SKILLS

- **Rockwell Automation software:** RSLogix 500, RSLinx, RSLogix Emulate 500 and FactoryTalk View Studio.
- **Design and Simulation software** AutoCAD Electrical - drafting and interpretation, MATLAB, and LtSpice.
- **Electrical testing:** Continuity, voltage measurements, and High Voltage testing - AC Hi-pot and DC megger.
- **Networking and industrial communication:** Basic understanding of TCP/IP, Ethernet/IP, and modbus.

MOST RELEVANT WORK EXPERIENCE

Electrical Test Technician   **December 2024 – Present**
Alstom   *Ontario*

- Execute 100+ connections between the test system and test equipment daily by interpreting electrical schematics.
- Troubleshot continuity faults by collaborating with production and test teams to achieve a 100% pass rate.
- Executed High Voltage (2000V) Insulation testing:- AC Hi-Pot and DC Megger, meeting client-specified criteria.
- Documented faults, test results and resolutions to support quality assurance, traceability & electrical compliance.
- Trained new test technicians on best practices for troubleshooting, testing procedures, and safety protocols.
- Fully trained and compliant in Safety: LOTO procedures (Lockout/Tagout) and the consistent use of PPE.

PROJECT EXPERIENCE

Automated Water Filter System - RSLogix 500 + FactoryTalk View *(Self Directed)*
(Extension of a PLC project from an online course)

- Implemented holding state that enabled the system to resume operations with 100% accuracy after shutdown.
- Architected HMI from scratch in FactoryTalk to monitor real-time operation: tank level, device modes & alarms.
- Implemented restricted-access alarm triggers to test 3 critical alarm types by simulating critical conditions safely.
- Resolved polling mismatch by adjusting scan class update rates from 1000ms to 250ms, boosting response 30%.
- Created structured testing framework with 5 phases to validate logic, resolving 100% of errors via debugging.

AutoCAD Electrical – 3-Phase Motor Control *(Self Directed)*

- Architected a 3-phase motor control circuit schematic simulating an actual real-world control panel design.
- Configured 10+ drawing layers for 10 types of wires based on size and color to enhance clarity and organization.
- Inserted and annotated more than 10 components, including breakers, switches, connectors, and transformers.
- Created a complete panel layout with 10+ footprints and integrated PLC I/O modules with cross-referencing.

Capstone Project *(Academic - Control Systems)*

- Selected components in 5 to 12-volt range based on specifications and testing to achieve desired performance.
- Designed and prototyped a custom PCB; soldered over 10 components: - motors, ICs, and MPU6050 sensors.
- Coded Arduino program and developed PID algorithm to calculate PWM values for real-time system correction.

Numerical Methods Project *(Academic - MATLAB and LTspice)*

- Orchestrated a circuit analysis project using Runge-Kutta 4th Order (RK4) method in MATLAB and LTspice.
- Developed MATLAB code for analysis, solved complex equations & managed simulations using LTspice software.

EDUCATION

Bachelor of Electrical Engineering, *Lakehead University, Ontario*   May 2023
Diploma in Electrical Engineering Technology, *Lakehead University, Ontario*   May 2021

CERTIFICATIONS & TRAINING

- **Automation Technician Certificate**   *In Progress*
  George Brown College – RSLogix 500, DCS, VFDs, Robot Programming
- **AutoCAD Electrical Certification**   *January 2025*
  Autodesk Authorized Training Center, India – AutoCAD Electrical, Single-Line Diagrams
- **CSA Z462:24 Workplace Electrical Safety**, *Alstom*   *December 2024*
  Arc flash protection, shock hazard safety, and High Voltage system handling.
- **Advanced SCADA-PLC & Industrial IoT**   *September 2024*
  NIELIT, India – Siemens PLC, STEP7, TIA Portal, Industrial IoT – NodeRed