First Name Last Name

Phone | Email| GitHub| Location

Education
School Name | GPA

Project Experience
PLC-Integrated Multi-Axis Motor Control System
• Designed and built an integrated electro-mechanical system for controlling multiple DC/BLDC actuators
• Implemented PLC-based real-time control (Structured Text + Ladder Logic) for motion sequencing and feedback
• Developed sensor-driven control logic to dynamically manage actuator behaviour
• Designed motor driver circuits and power conditioning systems for stable operation
• Performed system-level testing, signal validation, and debugging across electrical and control layers
• Reduced system complexity by optimizing control signal mapping and centralized power distribution

Frequency-Based Microfluidic Filtration and Control System
• Built a piezoelectric-driven microfluidic filtration system using frequency-controlled fluid vibrations for selective particle separation
• Programmed Arduino-driven MP6 micropump control (85–270 Vpp, 25–226 Hz) with RC noise filtering and real-time frequency correction
• Developed algorithms to compute optimal settling time (2t) based on fluid properties to activate a microfluidic valve at the desired frequency

Mechanical Inspection System using ML and Embedded Control
• Designed and implemented a computer vision-based defect detection system using YOLO
• Integrated camera-based imaging with embedded C/C++ control systems
• Built a closed-loop system connecting image processing outputs to physical sorting mechanisms
• Developed real-time decision logic for automated defect classification and sorting
• Reduced manual inspection workload by 70% and improved defect detection accuracy
• Performed system validation and calibration to ensure consistent performance

Employment History
Job 1 – Contract
Company 1 | **(10 months)**
• Supported testing and validation of MV/LV power distribution systems including transformers, switchgear, and protection equipment
• Interpreted electrical test data and field measurements to identify system issues and support root cause analysis
• Developed and revised single-line diagrams and wiring schematics using AutoCAD for accurate system documentation
• Assisted in troubleshooting electrical faults and resolving non-conformance issues in grid-connected systems
• Collaborated with engineering and field teams to validate system performance and ensure compliance with grid standards
• Contributed to predictive maintenance by analyzing equipment behavior and identifying early failure indicators

Job 2 – Contract
Company 2| **(4 months)**
• Developed and tested automated control systems with a focus on system validation and performance reliability
• Identified and resolved control logic faults through systematic debugging and test analysis
• Improved system performance by analyzing operational data and implementing corrective logic changes

Job 3 – Internship
Company 3 | **(7 months)**
• Designed and tested AC/DC power converter circuits using MATLAB, LTSpice, and LabVIEW
• Performed electrical measurements, data acquisition, and performance validation of prototypes
• Analyzed test results to identify performance deviations and support root cause investigation of circuit behavior
• Set up instrumentation and test benches for circuit validation and troubleshooting
• Documented test procedures, results, and engineering findings for internal review