

NAVEETH SHEHIN NELLIYADI

Cambridge, Ontario

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Robotics and Industrial Automation professional with a Diploma from Conestoga College and a bachelor's degree in Mechatronics Engineering. Strong electrical knowledge, and solid skills in PLCs, Industrial robotics, and practical experience in programming, embedded systems, and IoT applications.

TECHNICAL SKILLS

- **PLC & HMI:** Allen-Bradley, Siemens S7-1200, Omron; FactoryTalk View Studio, Simatic WinCC; PID tuning
- **Robotic Systems:** ABB, Motoman, Kuka, Fanuc – design, programming, safety, coordinated motion
- **Industrial Communication & Networking:** MQTT, Profinet, Ethernet/IP, Modbus, RS-232/RS-485, TCP, UDP, FTP; Wireshark for protocol troubleshooting
- **VFD & Process Control:** VFD configuration with encoder feedback, closed-loop control; system stability analysis, transfer functions, Laplace, response modelling
- **System Integration & Design:** AutoCAD Electrical, SolidWorks, 3D modelling, schematics; integration of PLC, HMI, VFD, sensors, safety devices, motors, and panel wiring
- **Vision Systems:** Image processing, camera setup, calibration, 2D/3D vision-guided robotics
- **Programming & Web Development:** Python, C#, Visual Studio, Arduino IDE; LAMP stack basics, remote access
- **Pneumatic & Hydraulic Systems:** Design, implementation, and maintenance
- **Project Engineering & Startup:** Functional specification, timeline planning, task coordination, documentation; system debugging, SAT, diagnostic acceptance testing (DAT), endurance testing
- **Soft Skills:** Reasoning, adaptability, communication, teamwork, and project collaboration

PROFESSIONAL EXPERIENCE

BEST Service Pros, Cambridge, ON

Aug 2024 – Present

Housekeeping (Night Shift)

- Maintain cleanliness and hygiene standards at Conestoga Union facilities, ensuring a safe and welcoming environment for staff and visitors.
- Perform scheduled cleaning, sanitation, and waste management tasks in compliance with Ontario WSIB safety guidelines.
- Support day-to-day facility operations through attention to detail, time management, and adherence to procedures.
- Collaborate with team members to complete tasks efficiently and maintain high service quality.

Zamzam Water Treatment Plant, Fujairah, UAE

February 2023 - February 2024

Electrical Maintenance Technician

- Took full responsibility for end-to-end operations at a small-scale water treatment plant, performing tasks beyond engineering, including logistics and customer service.
- Operated and maintained machines, resolving issues such as timing adjustments, motor belt replacements, and electrical troubleshooting to ensure efficient production.
- Participated in inventory and supply chain management, monitoring stock levels and coordinating restocking of essential components and consumables.
- Proficiency in using hand tools, including wrenches, screwdrivers, pliers, and hammers, to perform repairs and maintenance on machinery.
- Assisted with loading/unloading operations and ensured timely delivery coordination for treated water shipments.
- Handled basic administrative tasks, including service billing, recordkeeping, and daily operational reporting to support plant efficiency.

Juggle club football Turf, Kerala, INDIA

October 2020 - August 2021

Night Shift Supervisor

- Supervised day-to-day operations of the football turf facility, ensuring smooth customer experience.
- Managed and coordinated a team of 5 staff members to deliver efficient service.
- Oversaw facility readiness, including field maintenance, lighting systems, and equipment functionality.
- Performed routine maintenance checks and resolved issues to keep operations running smoothly.
- Handled daily financial transactions and maintained accurate records.
- Ensured safety and cleanliness standards were consistently met for all players and visitors.

INTERNSHIP

ExpertsHub Industry Skill Development Center – IoT Intern *Bengaluru, India | Jan 2018 – Aug 2018 (8 months)*

- Completed a hands-on internship focused on Internet of Things (IoT) applications, hosted at JSS Academy of Technical Education.
- Worked on an IoT application-based project, applying skills in sensor integration, microcontroller programming, and cloud-based data monitoring.
- Gained practical exposure to communication protocols (MQTT, HTTP), data acquisition, and real-time system monitoring.
- Collaborated with peers to design and test prototypes, enhancing problem-solving and teamwork skills.
- Strengthened understanding of IoT's role in automation, remote monitoring, and smart system development.

EDUCATION

Conestoga College, Cambridge, ON **Robotics And Industrial Automation**

May 2024 - Aug 2025

Graduated with Distinction (Program GPA: 3.66, Program Average: 82%). Gained hands-on expertise in PLC programming (basic and advanced), structured text programming, and electrical design/commissioning. I studied process control, data communications, robotics integration, and industrial automation project work with practical application of FactoryTalk and safety circuits. Developed strong skills in fluid power automation (hydraulic and pneumatic), advanced SolidWorks modeling, and automation system integration. Earned top grades in advanced technical subjects, including Process Control (A+), FactoryTalk Automation (A+), and Safety Circuits & Standards (A+).

APJ Abdul Kalam Technological University, Thrissur, IN **Mechatronics Engineering**

July 2017 - February 2023

Completed a comprehensive program covering control systems, robotics engineering, embedded systems, PLCs, sensors and actuators, microcontrollers, and power electronics. Gained experience in digital image processing, machine vision, soft computing, thermodynamics, fluid mechanics, and manufacturing technology, while applying knowledge through design projects, labs, and a final-year project in mechatronics (graded A+). Additional exposure to business economics, principles of management, nanotechnology, MEMS, and sustainable engineering practices built a strong interdisciplinary foundation for automation and robotics.

ACADEMIC PROJECTS

- **Capstone Project – Dial Table Automation System**
Conestoga College – Robotics & Industrial Automation
 - Designed a fully automated dial table assembly system using Siemens S7-1200 PLC, WinCC HMI, and Festo valve.
 - Programmed five stations: Load/Unload, Mating, Press, Inspection, and Label Application.
 - Integrated IO-Link sensors, Cool Muscle servo motors, and safety devices (e-stops, light curtains, interlocks).
 - Implemented system passed PHSR review and achieved >85% uptime on SAT.
 - Emphasized real-time diagnostics, data collection, and quality verification.
- **Sign Language Converter**
Malabar College of Engineering & Technology
 - First Prize Winner at the ELEMENT project expo (May 2019).
 - Developed a system to convert sign language visuals into audible audio using a camera and a processing unit.
 - Utilized machine learning and neural networks to train the system for visual recognition.
 - Designed a secondary system using a wearable glove with actuators to detect signs from finger movements by measuring changes in resistance.
 - Both systems were designed to work without a camera; the glove system would use direct feedback from the fingers. A working prototype for the glove system was not implemented due to budget constraints.

- **Robotic Integration Projects:**
 - **Robotic CNC Tending – Motoman + Allen-Bradley PLC:** Integrated Motoman robot with Allen-Bradley PLC to automate CNC loading/unloading, programmed gripper logic, door interlocks, and cycle completion sequences
 - **Robotic Deburring and Polishing – ABB + AB PLC:** Designed robotic path motion and sequence for material finishing, used an ABB robot with PLC-driven logic for tool selection and safety interlocks
 - **FANUC Robotic Assembly System:** Implemented FANUC robot for pick-and-place and part assembly application, Coordinated logic between robot controller and external sensors
 - **KUKA Palletizing Project:** Configured the KUKA robot to perform palletizing based on product orientation, developed a correction routine for misaligned parts.
- **Vision System Projects**

Cognex In-Sight Vision Projects

 - Used PatMax tools for object location and feature inspection
 - Applied calliper tools to measure dimensions with accuracy
 - Developed logic to count and verify poker chips without overlap using pattern tools
 - Integrated vision tool output with PLC logic for quality control and rejection decisions
- **HMI Development:** Designed user interfaces for robotic and process automation systems.
 - **FactoryTalk ME:** HMI for robotic screw feeder with torque feedback, fault alarms, and cycle control
 - **FactoryTalk SE:** SCADA-style interface for robotic cell with real-time monitoring and historical data logging
 - **WinCC:** Created user-friendly WinCC panels for process control and operator interaction, programmed alarms, interlocks, and step transitions with real-time feedback.
- **Motion & Drive Systems**
 - Configured PowerFlex 525 VFDs for conveyor and motor control with encoder feedback.
 - Built PID and on/off controllers for speed and positioning optimization.
 - Integrated Eaton DM1 VFD, Linmot servo drives, and Cool Muscle combo units into automation systems.
- **Industrial Communication & Embedded Projects:**
 - Built IoT-based communication using MQTT + C# + Arduino for real-time control.
 - Developed Visual Basic gear calculator, file manager, and temperature logger with error handling.
 - Created a database CRUD application for managing customer information and queries.
- **Safety System Design:**
 - Developed complete safety architecture using Banner XS26, Pluto B20, and Omron relays.
 - Created electrical schematics, dual-channel safety logic, and performed functional validation.
 - Integrated safety into robotic and motion systems, ensuring compliance with CSA/OSHA standards.

VOLUNTEER EXPERIENCE

National Service Scheme (NSS)

Thrissur, India | Jan 2016 – Dec 2018

- Mentored and supported at-risk youth, helping improve their academic performance and self-confidence.
- Led a community cleanup initiative with 20 volunteers, significantly enhancing neighborhood cleanliness.
- Collaborated on a social media campaign that expanded the organization's online presence and engagement.
- Assisted in organizing academic, cultural, and sports events at the college level.

World Organization of the Scout Movement (WOSM)

The Bharat Scouts and Guides

Calicut, India | 2012 – 2014

- **Project Management & Leadership:** Organized and led community service initiatives, including tree planting drives and sanitation campaigns. Directed teams during outdoor activities like trekking and camping, fostering teamwork and collaboration.
- **Community Service:** Participated in public awareness campaigns on environmental and social issues. Assisted in various community support and disaster relief efforts, demonstrating a commitment to civic duty.
- **Skill Development:** Earned proficiency badges in first aid, wilderness survival, and navigation. Developed practical skills and a strong sense of discipline and self-reliance by following the Scout Law and Promise.