Rackan Abughazal

📞 +1 (416)-315-6089   ✉ rackan.abughazal10@gmail.com   in linkedin.com/in/rackan-abughazal   🌐 My Portfolio

EDUCATION

McMaster University   Hamilton, ON
Bachelor of Engineering in Mechatronics Engineering   *Sep 2021 – Apr 2026 (Expected)*
- Predictive & Real Time Control Systems, Robotics & Machine Learning, Embedded Systems

EXPERIENCE

Veoneer Canada Safety Systems   Toronto, ON
Mechatronics Engineering Intern   *May 2024 – Aug 2025*
- Designed and delivered precision safety-sensor fixtures used in **final validation of Tesla CyberCab vehicle hardware**, directly supporting deployment readiness of next-generation CyberCab platforms.
- Embedded new and existing automation online by modifying PLC logic, recalibrating **15+ industrial robots**, and validating end-to-end line performance to support **7 product launches** and production ramps.
- Assembled, delivered, and retrofitted **robotic production lines** by modifying PLC logic, recalibrating industrial robots, and redesigning fixtures, validating end-to-end line performance to support launch of next-generation products while reusing existing automation infrastructure and reducing capital expenditure.
- Built a **C# production scheduling system** coordinating **20+ manufacturing lines**, eliminating manual planning errors and improving schedule reliability by **62%**.
- Automated robotic press-fit data analysis, reducing reporting time from **30+ minutes to under 1 minute ($30\times$ speedup)** and accelerating validation and troubleshooting across **hundreds of builds per week.**

Eastenghouse Inc.   Toronto, ON
Power Systems Engineer Intern   *May 2023 – Aug 2023*
- Engineered and serviced **safety-critical power distribution systems** for hospitals and transit infrastructure requiring zero-downtime operation.
- Commissioned and maintained switchgear, transformers, generators, protection relays, HMIs, and PLC-controlled systems under utility outage conditions.
- Designed and validated power architectures for **10+ large-scale projects**, balancing redundancy, protection coordination, and load capacity.
- Performed Short Circuit, Coordination, Arc Flash, and Harmonic Studies using **SKM Power Tools** to identify failure modes and improve system resilience.

Bell Canada   Toronto, ON
Network Technician   *May 2022 – Aug 2022*
- Installed and repaired **Ethernet, coaxial, and copper twisted-pair** cabling for internet and telephony systems.
- Diagnosed connectivity faults using multimeters, tone generators, and wire tracers to validate signal integrity and continuity.
- Configured routers, switches, and access points; completed **50+ service jobs with 100% customer satisfaction**.

PROJECTS & CERTIFICATES & AWARDS

Ergonomic Accessibility Mouse   Hamilton, ON
Software Engineer Team Lead   *Jan 2022 – Apr 2022*
- Led the end-to-end development of a **custom assistive input device** for a client with Ehlers–Danlos Syndrome, translating human constraints into embedded hardware and software system requirements.
- Developed embedded firmware on a **Microcontroller (C++)** and designed ergonomic mechanical components using 3D printing and laser cutting.

Above & Beyond Award — Veoneer Canada Safety Systems   *2025*
Sysmac Studio PLC Programming Certification — OMRON Automation   *2025*
3D Design CAD Certification — Solidworks   *2025*

SKILLS

Languages: Python, C++, C#, JavaScript/TypeScript, MATLAB, Verilog
Software: HTML, Tailwind CSS, React, Node.js, REST APIs, SQL, MongoDB, AWS, Embedded Systems, Microcontrollers
Robotics & Automation: PLC Programming, Industrial Automation, Simulink, SolidWorks