

# RACKAN ABUGHAZAL

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## 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

## SKILLS

**Programming & Software:** Python, C#/C/C++, MATLAB, Simulink  
**Hardware & Systems:** Micro-controllers, PLC programming & troubleshooting, Validation testing  
**Engineering Tools:** SolidWorks, Autodesk Inventor, SKM Power Tools, Microsoft Office  
**Professional:** Technical reports, Design proposals, Client communication

## EXPERIENCE

**Veoneer Canada Safety Systems** Toronto, ON  
*Mechatronics Engineering Intern* May 2024 – Aug 2025  
– Led the design and delivery of advanced safety sensor fixtures for Tesla's **CyberCab** program. Precision-engineered fixtures were critical in conducting final validation, directly influencing next-generation vehicle safety systems.  
– Pioneered the development of a **C#** scheduling platform that revolutionized production planning, eliminated human error, and became the benchmark tool adopted across multiple manufacturing lines.  
– Automated parsing and exporting of pressfit robot data, cutting report generation from **30+ minutes to under 1 minute** — a **30x efficiency** gain that set a new benchmark for operational excellence.  
– Drove production stability through comprehensive strain, CPK, and Gage R&R analyses while reprogramming PLC logic. Significantly boosted run-rate consistency and **reduced downtime by 42%**, enabling smoother product launches and higher yields.

**Eastenghouse Inc.** Toronto, ON  
*Power Systems Engineer Intern* May 2023 – Aug 2023  
– Worked on power distribution for multiple hospitals, including the new **SickKids Hospital** wing in downtown Toronto. Designed and serviced systems where uninterrupted operation of **life-support equipment** was mandatory, even during full utility outages.  
– Executed pre-servicing, programming, and maintenance of switchgear, transformers, generators, relays, HMIs, and PLCs, ensuring safe and reliable operation of critical infrastructure.  
– Developed and validated power distribution architectures for **10+ projects**, delivering solutions that met rigorous industry standards and ensured long-term reliability under demanding conditions.  
– Performed advanced Short Circuit, Coordination, Arc Flash, and Harmonic Studies using SKM software to optimize safety and resiliency of healthcare and transit systems.  
– Contributed to the **Eglinton LRT Line** by overseeing a **parallel power distribution network interconnecting 25 stations**, enhancing grid reliability for one of Toronto's largest transit expansions.

**Power in Community Project** Hamilton, ON  
*Software Engineer Team Lead* Jan 2022 – Apr 2022  
– Developed and prototyped an ergonomic mouse to assist a client with Ehlers-Danlos Syndrome.  
– Applied 3D printing and laser cutting to produce ergonomic joystick attachments and fiberglass acrylic bases.  
– Programmed Arduino Micro in C++ with LDR sensors to control mouse/keyboard input.  
– Led a team, coordinated testing, and documented the design process in a detailed technical report.