JUSTIN NEHME

ROBOTICS & MECHATRONICS ENGINEERING

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PROFESSIONAL PROFILE

Mechanical engineering candidate focused on robotics, mechatronic prototyping, and electromechanical integration. Co-developed a first-place underwater robotic system combining propulsion, suction, embedded control, wired communication, CAD, and pool testing. Industrial experience with ABB robotic tooling, sensors, machine troubleshooting, and additive manufacturing.

ENGINEERING EXPERIENCE

Les Technologies KK | Île-Perrot, QC Feb 2026 – Present

Manufacturing Engineering | Aerospace & Defence Components

- Design custom fixtures and 3D-printed manufacturing aids, including CNC-loading components and mechanisms for correcting deformed aluminum parts.
- Develop a bilingual process-planning tool with reusable routing, inspection, and revision-control workflows.
- Coordinate drawing reviews, production revisions, and inspection issues with CNC programmers, engineers, and CMM personnel.
- Support hands-on precision assembly and gain shop-floor exposure to 5-axis machining, Mastercam, and laser engraving.

WAJAX – Delstar Énergie | Montreal, QC Aug – Dec 2023

Mechanical Engineering Intern

- Redesigned components for an ABB robotic taping system using CAD to support manufacturing operations.
- Assisted with sensor integration and troubleshooting on automatic induction-brazing equipment.
- Designed motor-pole lifting fixtures for loads up to 800 kg; maintained a multi-printer 3D-printing operation.

SELECTED ENGINEERING PROJECTS

Walter | Underwater Robotic Cleaning & Coin Recovery | 1st Place Capstone
Co-developed a semi-autonomous underwater robot, contributing to SOLIDWORKS assemblies, 3D-printed parts, suction and propulsion integration, Arduino/ESP32 development, wired control, and pool trials.

Thermoelectric Vehicle | Optimization Project
Optimized a 3D-printed chassis for speed and worked on thermal-drive efficiency and weight reduction.

Machine-Element Soap Press | Functional Prototype
Designed and manufactured a working 3D-printed press using machine-element calculations and FEA.

TECHNICAL SKILLS

Robotics & electronics: Arduino, C++, ESP32, sensor integration, embedded-system prototyping, electromechanical troubleshooting.

Mechanical design: SOLIDWORKS, Inventor, Fusion 360, assemblies, fixture design, FEA, DFM/DFA.

Fabrication & integration: 3D printing, CNC exposure, shop equipment, mechanical assembly, system testing.

EDUCATION & ADDITIONAL EXPERIENCE

Concordia University | B.Eng., Mechanical Engineering | Montreal, QC | 2021–2026 (expected)

John Abbott College | DEC, Pure and Applied Sciences | 2018–2021

Earlier experience: Automobile Parts Advisor, Canadian Tire (2022–2023); Founder & Lead Technician, Justin's Repair Shop (2016–2018).

Languages: Fluent English and French • **Leadership:** 250+ hours of community volunteering; high-school robotics CAD team.