

Jordan Vanriel

(647) 522-5020 | jordanvanriel@gmail.com | Toronto, Canada | [LinkedIn](#) | [Portfolio](#)

Professional Summary

Mechanical Engineer with 4+ years of hands-on experience in product introduction, system-level testing, and quality assurance across electro-mechanical and mechatronic systems. Proven track record in product validation, failure analysis, and compliance with regulatory and customer requirements. Experienced in managing BOMs, driving cross-functional communication, and resolving product performance issues. Passionate about ensuring safety, reliability, and customer satisfaction through a proactive QA approach.

Skills

Quality & Reliability Tools: FMEA, Root Cause Analysis, Corrective Actions (CAPA), Statistical Process Control, Excel/VBA QA Tooling

Technical Design & Analysis: SolidWorks, Python, OnShape, Arena Simulation, MATLAB, Machine Design Testing

Manufacturing & Testing: Injection Molding, Composites, Mechatronics, HVAC Systems, Thermodynamic & Structural Testing

Cross-Functional Coordination: Supplier Communication, Packaging Teams, Contract Manufacturer Management

Work Experience

Mechanical Engineer June 2021 - Present

Mosaic Manufacturing - Toronto, ON

- Performed QA activities for the Array 3D printing platform; managed design & manufacturing validation and reliability testing from prototype through production.
- Developed and ran custom mechanical and thermal test rigs for system-level validation, simulating customer environments.
- Owned BOM development (450+ components, \$150K+) and managed system-level product testing (thermodynamics, statics, vibration).
- Led pilot production ramp-up: authored work instructions, trained contract manufacturers, and supported remote onboarding.
- Interfaced with remote production teams and contract manufacturers to ensure build quality and labeling compliance.
- Explored and evaluated new technologies and component architectures to increase throughput and reliability.

Process Engineering Intern Summer 2020

Yanfeng Automotive Interiors - Mississauga, ON

- Built a statistical QA tool in Excel/VBA used across all injection molding lines to improve dimensional consistency.
- Diagnosed and resolved molding defects affecting high-volume production for Ford and Lexus interior panels.
- Gained practical exposure to mold tuning, press tooling, cycle optimization, and root cause analysis.

Engineering & Quality Intern Summer 2018 & 2019

Martinrea International (Automotive) - Vaughn, ON

- Led redesigns of weld fixtures and storage systems to improve ergonomics, reduce cycle time (–3s), and free up floor space.
- Designed and prototyped components for an autonomous mobile robot project (200 lb payload @ 2 m/s).
- Used 5S principles to streamline weld cell operations, reducing paperwork clutter and improving workflow efficiency.

Education

Bachelor of Engineering (B.Eng), Mechanical Engineering - Mechatronics Specialization 2021 Graduate

Toronto Metropolitan University

- Placed 3rd in the Thales IOT Innovation Competition to create a solution for IOT cybersecurity
- Relevant coursework: Mechanical Design, Heat Transfer, Control Systems, Robotics, CAD, Thermodynamics

Projects & Leadership

Mechatronic System Lead

Winter 2021

HVAC Capstone Project with Cadillac Fairview

- Developed an 80% accurate Random Forest ML model to predict tenant comfort
- Designed a Python-based UI to visualize and query HVAC predictions for the TD Center in Toronto

Robotic Manipulator Design Project

Winter 2021

Design of Robotic Manipulators

- Simulated an anthropomorphic 3-axis robot in MATLAB/Simulink; implemented PD + gravity compensation and inverse dynamics control strategies.

Co-Founder & Interiors Team Lead

January 2018 - 2022

Helium Aero (Aerospace)

- Led the design and fabrication of a carbon fiber prototype vehicle interior showcased in Silicon Valley
- Designed CAD molds and used composite techniques, 3D printing, CNC, and laser cutting for manufacturing