Jordan Vanriel

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Professional Summary

Mechanical engineer with 4+ years of experience designing, prototyping, and scaling electromechanical systems. Skilled in CAD, shop tools, and creating custom equipment for production transitions. Adept at hands-on experimentation, design-for-manufacturing, and documentation for safe, scalable operations.

Skills

Technical Design Tools: SolidWorks, Blender, AutoCAD, Inventor, OnShape, Arena Simulation, GD&T
Programming & Data Tools: Excel/VBA, Python, C, Matlab
Hardware & Manufacturing: 3D Printing, Composites, robotic systems, Hand Tools, Metal Lathes, Laser Cutting, CNC
Project & Product Operations: BOM Management, Supplier Communication, Packaging Design, Design Package Development, Contract Manufacturing Management, FMEA

Work Experience

Mechanical Engineer — June 2021 - Present

Mosaic Manufacturing - Toronto, ON

- Led the Array product through the full product lifecycle from prototype to mass production, resulting in 30+ commercial sales
- Conceptualized, designed, and fabricated 40+ unique mechanical components for the Array platform to support its transition from prototype to pilot production
- Authored standardized protocols for maintenance, assembly, and troubleshooting used by contract manufacturers
- Managed a 450+ part BOM valued at $150,000+
- Coordinated system-level testing in thermodynamics, statics, and machine design, developing custom mechanical test rigs and software testing scripts
- Developed packaging for global logistics and led on-site and remote customer troubleshooting

Process Engineering Intern — Summer 2020

Yanfeng Automotive Interiors - Mississauga, ON

- Created a capability study tool in Excel/VBA that improved tolerance consistency across 100% of injection molding machines
- Performed root-cause mold analysis to resolve a structural defect in Ford/Lexus interior parts
- Gained hands-on experience with injection molds, materials, and production cycles

Engineering & Quality Intern — Summer 2018 & 2019

Martinrea International (Automotive) - Vaughn, ON

- Redesigned weld fixtures using SolidWorks and improved cell ergonomics, reducing cycle time by 3s
- Lead a project using 5s concepts to optimize the amount of physical documentation at each weld cell
- Designed a storage system for 300+ bins, improving floor space utilization
- Helped support in managing a $30,000 autonomous robot project capable of carrying over 200lbs and moving at a speed of 2.0m/s
- Supported a $30,000 autonomous mobile robot build: designed in SolidWorks, integrated sensors/actuators, and prototyped using 3D printing

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

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

- Modeled and simulated a 3-axis anthropomorphic robot using MATLAB & Simulink
- Implemented and validated multiple control schemes: joint control, PD + gravity compensation, inverse dynamics

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