Jared Jackman

4th Year Mechanical Engineering

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WORK EXPERIENCE

Manufacturing Engineer
Ecobee

01/2019 – 04/2019 *Toronto, ON*

Consumer Electronics and smart home automation

- Redesigned the PCB mounting surface in a new IoT device, proposed design changes to molded plastics and reduced tooling costs 90%.
- Served as the primary contact between Ecobee and vendors in China; worked with suppliers to complete DFMs and procure samples
- Conducted PFMEA and revised the assembly process for a new IoT device; reduced cycle time by 31%
- Independently designed an occupancy test stand for the new Ecobee Smart Thermostat; programmed the test stand using c++
- Worked with Electrical Engineers to design and conduct material selection for thermal pads used to facilitate IC cooling

Automation Designer
Stackpole International

05/2018 – 08/2018 *Hamilton, ON*

Design of automotive fluid power systems

- Designed a fully automated oiling station to replace an existing station; reduced cycle time by 13 seconds
- Implemented a spring-loaded end-of-arm tool to prevent pump seals from falling during assembly
- Designed a vacuum-driven test station to detect 1 mm thick bushings

Manufacturing Engineer
Dynaplas Limited

09/2017 – 12/2017 *Toronto, ON*

High precision injection molding

- Applied DFMEA to identify shortcomings in a gauge; redesigned the gauge leading to savings of $0.10 per part as sorting was ended
- Designed a pneumatic swing chute to separate faulty and conforming parts

Quality Engineer
Linamar Corporation

01/2017 – 04/2017 *Guelph*

Precision automotive powertrain solutions

- Applied root cause analysis to determine the cause of oversized journals on differential cases
- Conducted heat treatment studies to determine how tolerances should be adjusted to account for thermal expansion

SKILLS

Design/Analysis

SolidWorks, Inventor, AutoCAD, FeBio(FEA), ANSYS-CFX, MATLAB + Simulink, GD&T, DFM

Software/Hardware

Python (PyMC), C/C++, HTML, RaspberyPi, Arduino, Soldering, building circuits

PROJECTS

Fall Prevention Exoskeleton

- Designing an exoskeleton to predict and prevent falls
- Designed a 3 DOF Hip joint for the exoskeleton
- Currently designing a PID control system to drive hip actuation

Semi-Autonomous Dirigible

- Designed the main airframe and sensor mounts using SolidWorks
- Conducted analysis to determine the necessary volume of the helium balloon
- Fabricated components using 3-D printing, laser cutting and machining

Maze World Challenge

- Utilized machine learning techniques to solve multiple mazes with different obstacles
- Implemented SARSA and Q-Learning algorithms to solve the maze

EDUCATION

B.A.Sc Mechanical Engineering
University of Waterloo

09/2015 – 06/2020

INTERESTS

Urban Air Mobility | Piloting | Robotics | Machine Learning | Autonomous Vehicles | Basketball