SPENCER DUNLOP

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EDUCATION

University of Western Ontario **London, Ontario, Canada**

Bachelor of Engineering Science, Mechatronic Systems Engineering *Sept 2017 – Apr 2022*

- 3.9/4.0 GPA (cumulative), Dean's Honour List
- Relevant Courses: Robotic Manipulators, Manufacturing Technology, Reverse Engineering, Digital Logic Systems, Sensors & Actuators, Mechanical Component Design, Finite Element Methods
- Varsity Athlete

TECHNICAL SKILLS

Software/Tools: SolidWorks CAD/CAM/FEA, Surface Modelling, Assembly Drawings, MATLAB/Simulink, Design for Manufacturing, Geometric/Dimensional Tolerances, PLC Programming

Languages: C++, C, Google App Script, G-CODE

Hardware: 3D Printing, CNC Machining, Arduino, Raspberry Pi

WORK EXPERIENCE

Celestica Inc.– Aerospace and Defense Division **Mississauga, Ontario, Canada**

Manufacturing Process Engineering Intern/On Call Student *May 2020 – May 2022*

- Worked on the process engineering team to solve problems on the manufacturing floor
- Used SolidWorks to design tools/fixtures to aid operators
- Manufactured tools/fixtures using 3D printers and CNC milling machine
- Read assembly/component drawings to consider geometric/dimensional tolerances of products for tool design
- Automated the 3D printing process
- Automated spreadsheets to improve workflow
- Presented cost saving analysis to leadership team

RELEVANT PROJECTS

Capstone Project **London, Ontario, Canada**

Mechanical & Project Management Lead *Sept 2021 – Apr 2022*

- Led mechanical design and development of an athletic training device for sweeping in the sport of curling using SolidWorks and reverse engineering tools
- Developed four concept designs and used the engineering process to select a design
- Developed testing procedures to quantitatively verify sensor readings
- Designed for mass manufacturing using injection molding
- Analyzed the stress applied using finite element analysis and hand calculations
- Created professional level report outlining design process
- Delegated tasks within multidisciplinary team and managed the completion of project deliverables

DIY 3D Printer **Brampton, Ontario, Canada**

Personal Project *June 2021*

- Built a functional 3D printer using open-source design and parts from a broken printer
- Modified CAD files of 3D printed components to work with motion system parts from broken printer
- Used a CNC mill to manufacture structural components
- Modified software to unlock full functionality of printer

Western Formula Racing Team **London, Ontario, Canada**

Grounded Low Voltage Team *Sept 2019 – April 2020*

- Created Arduino based dashboard to display vehicle information to driver
- Sourced sensors and actuators used for data acquisition