

Jonathan DiGiorgio

Summary of Qualifications

- Experience with **CAD design** and/or **FEA** in **AutoCAD**, **Solidworks**, **Fusion360** and **COMSOL**
- Familiar with reading and understanding **GD&T Engineering Drawings** for modeling, assembly and inspection
- Experience machining parts using a **drill press**, **lathe**, **angle grinder**, **mill**, and **power tools**
- Trained and proficient in **3D Printing** and **Laser Cutting** for quick prototyping and design
- Instructed knowledge of **C++**, **RobotC**, **MATLAB**, **HTML**, **Java** and **Python** (Including pyAutoGUI, OpenCV)
- Fluent in **Microsoft Office** and the **Google Workspace**

Projects

Accessibility Glasses

05/2023 - present

- Designed glasses for the blind, which allows someone to 'look' at text and have the glasses read it aloud
- Created using a RaspberryPi (with Python) , camera and many modeled and 3D-printed parts

Fully Autonomous Chess Robot

01/2023 - 04/2023

- Designed and created a robot in a team, which plays pro-level chess against an opponent fully autonomously
- Built using Lego EV3 and Tetrix along with various custom 3D-printed, laser cut and machined parts
- Uses Python and OpenCV to detect and generate moves and RobotC to control the gantry and sensors

Magnetic Whirlpool Fishing Toy

09/2022 - 12/2022

- Designed and constructed a magnetic whirlpool with spring-powered fishing rods to catch targets
- Leveraged multiple electrical, 3D-Printed and machined (milled, sawed) parts
- Wrote a detailed technical report outlining the design process and viability of becoming a manufactured toy

Experience

Assistant QA Engineering Coop - S&C Electric Canada

05/2023 - present

- Participated in an AI inspection project to design a system which allows for packages to be inspected by AI
- Inspected and assembled high-voltage interrupting switches in reference to GD&T engineering drawings
- Contributed to a ~25% decrease in defective switch returns through my vigilance of inspection

Waterloo Rocketry Design Team

09/2022 - present

- Propulsion safety through UV-light inspection and assembly of ball valves, used in the oxidizer loading system
- Working on the airframe subteam to machine and assemble a competition-ready rocket frame using carbon fiber

UWaterloo Class Representative

09/2022 - 1/2023

- Represented the 27' mechanical engineering class in divisional meetings to provide feedback on the course
- Helped ~120 fellow students with any course-related issues, speaking on behalf of the student body

Education

Expected Graduation in 2027

- Pursuing a B.A.Sc in Mechanical Engineering from the University of Waterloo (95.0 Cumulative GPA)