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Summary of Qualifications

- Certified **Solidworks** Associate Mechanical Design**.** Modeled 100+ parts and worked with large assemblies.
- Adept working in a machine shop with **lathe, milling machine, drill press**, and more.
- Created dimensioned part drawings and floor plans using **AutoCAD**.
- Experienced **soldering** for circuit building and rapid prototyping working with motors.
- Proficient in **writing C++ firmware** for Arduinos, other embedded systems, and robotic applications.
- **Excellent leadership skills** built through hockey, robotics teams, and clubs.

Experience

Freelance 3D Printing & CAD Modelling Service **(September 2017 - April 2022)**

- Design, model, and 3D print, replacement pieces, and trinkets using **SolidWorks** and several slicer software. Have fulfilled approximately 50 orders.
- Assemble, troubleshoot, repair, and use **FDM 3D printers**.

Robotics Subteam Leader - FIRST Robotics Team 2702 **(September 2017 - June 2021)**

- Led a team of 10 students through the design, prototyping, and building of a lightweight, durable intake that quickly takes control of game pieces.
- Used **Solidworks to design 100+ parts for 125 lb** robots and worked with large-scale assemblies.
- Designed and assembled pneumatically actuated systems for robot end effector and drivetrains.
- Installed the robot's main **electrical system** consisting of motor controllers, batteries, radios, cameras, etc.
- Competed at Ontario Provincial Championship and International Championship.

3D Printer Technician & Mechanical Member - UW Robotics Team **(December 2021 - Present)**

- Designed and manufactured large rover subsystem frame mounts using Solidworks and FDM Printers.
- Responsible for managing 3D prints list, printing parts, and maintaining FDM 3D printers.
- Created technical part drawings using Solidworks for machining.

Projects

DoorMe, NewHacks Hackathon (1st Place Overall) **(October 2021)**

- Worked in a team of 2 to design, build, and program an automated QR code-based deadbolt in 24 Hours.
- Won overall best project out of the 45 submissions and 201 participants.
- Applied **Python** to create a GUI to generate QR codes.
- Used **Py OpenCV** to scan QR Codes and correct for fisheye warp.
- Implemented an **Arduino** in combination with a **Servo** and 3D printed parts to make a motorized deadbolt.

3D Printed Quadrupedal Robot Leg **(May 2021 - June 2021)**

- Designed, built, and programmed a fully **3d printed 2 D.O.F. quadrupedal leg**.
- Improved and applied skills such as SolidWorks, **C++ firmware programming** for Arduino, applied **inverse kinematics, circuit design, and rapid prototyping**.

Awards & Distinctions

- **1st Place, Waterloo Engineering Competition** representing UW at provincial competition in Jan. 2022
- **President's Scholarship** University of Waterloo. 2021
- **Research & SHAD Alumni scholarship** McMaster University (declined). 2021
- **SHAD Fellow** 2019

Education

University of Waterloo (Sept. 2021 - April 2026)
Candidate for BASc in Honours **Mechatronics Engineering**

Interests

Hockey, Kendama, ESports, Sewing, Fashion, Graphic Design, Cooking, Dominion, Lamps