Simon Gorbet

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Aspiring robotics engineer who enjoys thinking outside the box: solving problems using unorthodox materials, modern-day technology, and medieval mechanics.

Experience

3D Printing & CAD Modelling Service
Freelance
(September 2017 - Present)

- Design, model, and 3D print various solutions, replacement pieces, and trinkets using SolidWorks and several slicer software.
- Assemble, troubleshoot, repair, and use FDM 3D printers.

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

- Led the intake sub-team of 10 students through the design, prototyping, modeling, and building of a lightweight, durable intake that quickly takes control of game pieces.
- Modeled robot components in SolidWorks for 125 lb robot.
- Manufactured robot components using machine shop tools as well as 3D printers.
- Designed and assembled pneumatically actuated systems.
- Designed layout and installed the robot electrical system.
- Guided rookie members through the design cycle and taught basic SolidWorks to new mechanical sub-team members.
- Competed at provincial and international events.

Projects

University of Waterloo Aerial Robotics Group
August 2021 - Present

- Researching and developing custom airframes for RC planes that will compete in future Unmanned Systems Canada competitions.
- Designed control mechanism using SolidWorks for unmanned RC airframes.

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

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

3D Printed Quadrupedal Robot Leg (Leggo)
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.

Skills

Intermediate experience in CAD software **SolidWorks (CSWA Mechanical Design) & AutoCAD**

Intermediate experience writing **C++ firmware**

Experience **soldering** and working with **embedded systems**

Experience in **leadership** roles through hockey, robotics, and clubs.

Beginner level **Python, JS, HTML, & CSS** programming

Education

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

Awards & Distinctions

1st Place, Waterloo JR. Engineering Competition
Will represent UW at provincial competition in Jan 2022

President's Scholarship of Distinction
University of Waterloo. 2021

ENG Research Award & SHAD Alumni scholarship
McMaster University (declined). 2021

FIRST Robotics Dean's List Nominee 2020

SHAD Fellow 2019