OWEN MOOGK

Mechatronics Engineering Student
at the University of Waterloo

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EXPERIENCE

Formula SAE Team – Powertrain Member   September 2022 – Present
- Working to design and build a powertrain system for a Formula racecar.
- Designed assembly and manufacturing aids in SolidWorks.
- Fabricated parts using 3-axis milling machine and lathe.

FIRST Robotics – Subteam Lead   August 2018 – September 2022
- Designed flexible assemblies and functioning systems in SolidWorks for manufactured and 3D printed fabrication.
- Fabricated complex parts and assembled robotic systems.
- Sponsorship program lead, using networking and interpersonal skills to attract and retain sponsorship for the team.
- Led a subteam of students using project management and teamwork skills to design and build a robotic subsystem.

Electric Car Team – Senior Student   September 2021 – June 2022
- Designed and manufactured a fully electric racecar in under a year.
- Designed a 3D printed emergency stopping system in OnShape.
- Optimized drivetrain systems to increase efficiency.
- With the team, achieved first place in all races attended.

Merry Hill Golf Club – Clubhouse Employee   May 2020 – September 2022
- Demonstrated excellent customer service by implementing communication, responsibility, and cooperation skills.
- Navigated difficult situations through accountability and professionalism.

Choose to Lead – Student   September 2018 – June 2022
- Developed teamwork, cooperation, management, and leadership skills in a variety of community activities and volunteering efforts.
- Developed public speaking skills, hosting the Waterloo Regional Mayors forum.

SHAD Canada – UPEI Fellow   July 2021
- Engineered an award-winning solution interfacing Canadians with their water consumption habits, including custom 3D printed pipe mounting.
- Networked and learned from global leaders regarding environmental sustainability and business practices.

FLL Robotics Team – Mentor   August 2018 – March 2022
- Co-founded and mentored a FIRST Lego League team, teaching engineering and teamwork skills to students.
- Built a framework to foster creativity, learning, cooperation, and teach the design process in the context of solving real world problems.

EDUCATION

Mechatronics Engineering – University of Waterloo   Present
Candidate for Bachelor of Applied Science, studying Mechatronics Engineering. Working with likeminded students building collaboration, time management, and technical skills. Maintaining a grade average above 95%, with a 4.0 GPA.

SKILLS

Design
Proficient in mechanical design, using CAD tools such as SolidWorks (5 years), AutoCAD (1 year), Onshape (1 year).

Have used these tools to create flexible mechanical models, design machined parts, design 3D printed parts, and create technical drawings/drafts (with GD&T).

Experience designing and integrating hardware with software, using Arduino and simple electronics.

Other
Proficient with power tools and working in machine shop environments.

Experience in customer service and leadership roles, carrying a positive attitude while demonstrating teamwork and cooperation.

ACHIEVEMENTS

JamHacksV Winner
Won first place in the JamHacksV hackathon, where I designed and built a complete 3D printed cat feeding robot in 48 hours.

AP Scholars Award
Awarded the AP scholars Award for exceptional performance on Chemistry, Physics, and Economics advanced placement exams, all of which I achieved a qualifying score.

Duke of Edinburgh's Award
Awarded the prestigious Bronze and Silver Duke of Edinburgh awards for exceptional community service and personal growth.

Harvard CS50
Completed the Harvard CS50 computer science course, in which I learned software design principles, C++ and Python, and built a full stack application.