

# OWEN MOOGK

Mechatronics Engineering Student  
at the University of Waterloo

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## EXPERIENCE

### Personal Projects

2019 – Present

- Developed webpages using HTML, CSS, JavaScript, and ReactJS.
- Implemented advanced algorithms to solve complex computational problems.
- Designed and built multiple full stack applications with ReactJS and Django.
- Created a personal website with ReactJS, serving as a personal portfolio.

### Formula SAE Team – Powertrain Member

September 2022 – Present

- Working to design and build a powertrain system for a Formula racecar.
- Designing assembly and manufacturing aids in SolidWorks.
- Fabricating parts using 3-axis milling machine and lathe.

### FIRST Robotics – Subteam Lead

August 2018 – September 2022

- Led a subteam of students using project management and teamwork skills to design and build a robotic subsystem.
- 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.

### 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.

## EDUCATION

### Mechatronics Engineering – University of Waterloo

2022 – 2027

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

### Software

Experience in many languages, including Python (4 years), JavaScript (4 years), C++ (1 year), Java (1 year)

### Frameworks / Tools

Proficient in website and full-stack development with HTML (5 years), CSS/LESS (5 years), ReactJS (3 years), Django (1 year), Git/GitHub (4 years)

### Design

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

### Other

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 an AI-powered cat feeding robot in 48 hours.

### 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.

### 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.