

# Sachin Fernando

shfernan@uwaterloo.ca ❖ +1 (416) 860-7107 ❖ Waterloo, ON, Canada

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## WORK EXPERIENCE

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### University of Waterloo EcoCAR Team

Jan. 2021 – Present

*Connected and Automated Subteam Manager*

*Waterloo, ON*

- Managed perception, controls and V2X development for connected and automated features of a Chevrolet Blazer as part of the [EcoCAR Mobility Challenge](#) and Cadillac Lyriq as part of the [EcoCAR EV Challenge](#).
- Co-led full ADAS feature testing cycle from software-based simulation (CARLA, Driving Scenario Designer) to hardware and vehicle-in-the-loop environments.
- Improved precision/recall of algorithm accuracy by 25%, validated under real time operating conditions.
- Assisted in setting up framework of automated testing of ROS nodes for improved CI/CD pipeline.

*Project Manager*

- Led team of 40+ students across 5 distinct subteams (Automated/Connected, Controls, HMI/UX, Mechanical/Electrical, Communications) in yearlong multi-objective competition cycle.
- Implemented team-wide dashboard for improved inter-team work tracking, sprint planning and transparency.

### Stacktronic

May 2020 – Aug. 2020

*Battery Systems Intern*

*Kitchener, ON*

- Developed pack model and charging simulations from the ground-up to determine energy efficiency under various pack configurations using MATLAB's Simscape Electrical toolbox.
- Re-designed battery pack frame for startup's minimum viable prototype project using Onshape.
  - Reduced diagonal length of battery pack frame by 15% based on updated size constraint.

### Dematic Ltd.

May – Aug. 2018, Jan – Apr. 2019

*Controls Intern*

*Mississauga, ON*

- Supported lead engineer in conveyor controls design, procurement and machine commissioning. Drafted electrical schematics for 100+ conveyor unit systems.
- Validated PLC logic for merge and sortation system using RSLogix with Emulate 3D.

## EDUCATION

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### University of Waterloo

*Candidate for MASc, Mechatronics Engineering*

(Expected) Oct., 2023

- Thesis: An Automated Testing Framework for Sensor Fusion Algorithm Development
- Engineering Dean's Entrance Award (85%+ admission average)

### University of Waterloo

*BASc, Systems Design Engineering*

June, 2021

- Presidents Scholarship of Distinction (95%+ admission average)

## SKILLS & INTERESTS

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- **Skills:** programming (C++, Python, MATLAB), vehicle testing and interfacing (dSPACE ControlDesk, Vector CANalyzer), simulation (CARLA, Driving Scenario Designer), sensor integration/calibration (radar, lidar, camera), electrical debugging, project management, agile methodologies
- **Interests:** physical fitness, kickboxing, hiking, (trying to) cook, watching The Office on Netflix ... again