**Sachin Fernando**

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**WORK EXPERIENCE**

**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](https://avtcseries.org/about-avtc/past-competitions/ecocar-mobility-challenge/) and Cadillac Lyriq as part of the [EcoCAR EV Challenge](https://ecocarevchallenge.org/ecocar-ev-challenge/).
* Led full ADAS feature testing cycle from software-based simulation (CARLA, Driving Scenario Designer) to hardware and vehicle-in-the-loop environments.
* Improved sensor fusion algorithm accuracy by 25% 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**

**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**

* **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