Sachin Fernando

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TECHNICAL SKILLS

Software	Hardware
programming (C++, Python, MATLAB), ROS2, software testing (GoogleTest, pytest), CI/CD, Docker, simulation (CARLA, Driving Scenario Designer)	vehicle testing and CAN interfacing (dSPACE ControlDesk, Vector CANalyzer), sensor calibration (radar, lidar, camera)

WORK EXPERIENCE

University of Waterloo EcoCAR Team   **Jan. 2021 – Present**
Connected and Automated Subteam Lead   *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.
- Experienced with full scope of V-diagram as it relates to feature development for Level 2 vehicle autonomy. Testing exposure ranges from software-based simulation to hardware and vehicle-in-the-loop environments.
- Working on structured testing framework for perception algorithm covering unit, integration and system level testing as part of thesis. End goal is automated pipeline for validation that incorporates closed loop testing scenarios using ROS2, CARLA and CI principles

Project Manager
- Used agile methodologies to lead 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 Perception Algorithm Development
- Engineering Dean's Entrance Award (85%+ admission average)

BASc, Systems Design Engineering   **June, 2021**
- Presidents Scholarship of Distinction (95%+ admission average)

INTERESTS
- physical fitness, kickboxing, hiking, (trying to) cook, watching The Office on Netflix … again