

Sachin Fernando

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Tools

CAD

- ▶ AutoCAD, SolidWorks, OnShape

Controls & Related Simulation

- ▶ Matlab (Simulink, Simscape, Controls), RSLogix, Demo3D

Programming

- ▶ C++, Java, Python, VBA

Planning/Management:

- ▶ Confluence, MS Project
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Projects

Waterloo Formula Electric, SAE Design Team

- Accumulator system design, component fabrication, PCB design
- Battery performance analysis using **Matlab/Simulink**

Motion Controlled RC Car

- Used **Arduino**, gyroscopic sensor and Bluetooth modules to control RC car with hand movements
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Education

BASc, Systems Design Engineering, 2021

Relevant coursework:

Autonomous Vehicles, Control Systems, Machine Intelligence

Design. Build. Assess. Repeat.

Iterative design has been the underlying theme of both my academic and coop related engineering experiences. The result has been a strong technical background in mechatronic systems, controls and rapid prototyping, with a focus on user-centred design.

Experience

Co-op Term: W-Winter, S-Summer, F-Fall

Battery Systems Co-op, Stacktronic S2020

- Designed battery pack frame taking into account shock, weatherproofing and modularity requirements. Reduced x/y form factor **15% by** revising isolator design.
- Developed ground up pack model and charging simulation to determine energy efficiency under various conditions using Matlab's **Simscape Electrical** toolbox.

R&D Engineering Co-op, Promatek (Magna) F2019

- Supported solution development, controls architecture design and system testing of R&D projects focused on **EV** technologies, **industry 4.0** and manufacturing process improvement (joining/forming/casting).
- Engaged in full scope of project life cycle including **DOE**, **FMEA** and materials testing.

Controls Co-op, Dematic Ltd. S2018, W2019

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

Mechanical Engineering Co-op, Taymer Intl. F2017

- Design, fabrication and assembly of electrical and mechanical systems for machine vision product line.
- Independently conducted R&D project allowing for development of **rapid prototyping**, laser cutting, component machining, and electrical wiring skills.

Project Coordinator Co-op, CAP MS W2017

- Project coordinator for **20+** successful foundation installations on site for Manitoba Hydro project.