JUAN **CRUZ NIEVER**

juancruz3435@gmail.com · 403-866-0478

QUALIFICATION HIGHLIGHTS

- **Strong communication and teamwork skills** that have been developed by collaborating on projects with other students and competing in sports.
- I am **self-motivated** and **eager to learn** about all fields of engineering.
- **PCB** and **circuit design** skills acquired from personal and school projects.
- Operated oscilloscope, function generator, and power supply.
- Skilled **Python, C, and C++** programmer.

EXPERIENCE

SEPTEMBER 2021 – PRESENT

ELECTRICAL TEAM MEMBER, UNIVERISTY OF CALGARY SOLAR CAR TEAM

CAN to DB9 adapter:

- Designed a PCB that converted the Controller Area Network (CAN) signal coming from the car to a DB9 port to interface with a laptop.
- Utilized PCB design software like **Altium Designer**.
- Learnt how to design a reverse polarity protection circuit and how to select components for a circuit.

Testing battery cells:

- Currently researching how we will test 3000 lithium-ion cells for our next generation of solar car.
- Testing methodology will include measuring the AC impedance, DC impedance, and the on arrival open circuit voltage of the cells by using a Source Measure Unit (SMU).

Integrating a charging meter support in the car:

- Rewired the connections between the car and the J1772 battery charging port to be able to connect a charging meter. The charging meter will measure how much power is being supplied to the car's battery.

JANUARY 2022 – APRIL 2022

INTEGRATED LEARNING STREAM PROJECT, SECOND YEAR OF ELECTRICAL ENGINEERING

Designed a clapping volume controller:

- This is a device that can turn up, down, or mute the volume of a speaker with the clap of your hands.
- Developed the C code that we used to program a AVR128DB28 microcontroller. The microcontroller was used to interpret the signal coming from the microphone to decide if it was a clap and how the volume needed to change.
- Aided the design and assembly of the circuit which controlled the intensity of the volume.

Portfolio website:

- Designed a portfolio website to showcase what I had accomplished during the winter 2022 semester. The website visualizes my work on my ILS project, classes, and solar car projects.
- I used **GitHub Pages and HTML, CSS, and Java** to format and design the website. Here is the link to the website if you would like to view it: https://juancruz3435.github.io

SEPTEMBER 2020 – NOVEMBER 2020

GUI Design, Small Business

- Designed a Graphic User Interface (GUI) for a small business that wanted to format how they entered their customer information into an excel sheet.
- I used the tkinter and openpyxl libraries in python to design the GUI and communicate with an excel file.
- Built client relations skills and how to pivot the project to fit the client's needs.

MAY 2022 – SEPTEMBER 2022

Site Operator, Deco Windshield Repair

- Improved communication and customer service skills.
- Developed strong problem-solving skills.

EDUCATION

SPETEMBER 2020 - PRESENT

ELECTRICAL ENGINEERING, UNIVERSITY OF CALGARY

- Minoring in mechatronics.
- Completed a wide variety of courses including STEM, economics, anthropology, and medicine.
- 3.6 GPA.
- Expected graduation year 2025.

SEPTEMBER 2019 – APRIL 2020

FIRST YEAR OF ENGINEERING, MEDICINE HAT COLLEGE

- Finished with a 4.0 GPA

VOLUNTEER WORK AND HOBBIES

- Volunteer tutor for Teachico tutoring: I tutored two students in math and calculus twice a week throughout the 2020-2021 school year.
- Played football and soccer during high school.
- I have been playing guitar for 2 years and during the winter I love to snowboard.

References and recommendation letters available upon request.