OSCAR O'REGAN

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EDUCATION

Bachelor of Mechanical Engineering (BEng) Estimated graduation: Fall 2026

UNIVERSITY OF VICTORIA, Victoria, BC Sept 2022 – Present

- Currently in 3rd year, seeking work term #2
- 93% Avg - Fall 2024 term
- Member of Connected Autonomous Vehicle club

TECHNICAL AND CORE COMPETENCIES

- **Programming & Embedded Systems**: Proficient in C and C++, MATLAB, Simulink; experience with microcontrollers, sensor integration, MCU timers, ADCs, PWM, and LCD interfacing
- **CAD & Mechanical Design**: Skilled in SOLIDWORKS for part modeling, assemblies, automation, technical drawings, and 3D printing
- **Data Analysis & Automation**: Strong in Excel for dynamic calculation models; experience with R-Studio for data handling
- **Manufacturing Knowledge**: Familiar with machining, quality assurance, tolerances, and assembly line processes
- **Project & Team Leadership**: Led interdisciplinary teams and balanced club/sports involvement with full course load; managed deliverables under tight timelines

WORK EXPERIENCE

Quality Co-op, Work Term #1

Sure Grip Controls Inc, Victoria BC January 2024 – April 2024

- Managed incoming inspection, paying close attention to detail, resulting in the rejection of countless parts.
- Collaborated closely with major supplier, Lycro, to resolve existing non-conformance reports and address significant quality issues, contributing to overall process improvement and product quality and lowering non-conformities by 80%
- Communicated all non-conformities to suppliers and adjusted inventory to account for failed parts during inspection and production
- Performed extensive tests on joysticks for vibration susceptibility, designing and 3D printing Jigs in SolidWorks for testing
- Conducted activation force tests on friction-modulated joystick bases to ensure product reliability and created a 5-page engineering report of findings
- Cleared production floor space by reworking $6500 worth of parts to meet quality standards, utilizing construction skills and machining tools

Landscaper

CLS LANDSCAPE, Calgary AB Summer 2023

- Operated small machines to a high ability in a safe and efficient manner.

- Collaborated and communicated with a team of five in order to finish projects quickly while maintaining a high standard of quality.
- Performed hardscaping and soft scaping to a strict level of detail, building fences, retaining walls, patios, and more.

PROJECTS

High-Performance Inspection System Spring 2025

- Implemented conveyer belt item sorter in team of 2, utilizing the ATmega 2560 micro controller in combination with ferromagnetic and reflective sensors to distinguish object material and color.
- Developed code in C and circuitry for full DC and stepper motor control. Gaining an in depth understanding of interrupts, MCU timers, ADC conversions, PWM and LCD's.
- Created s-curve motion profile in MATLAB, then optimized it utilizing Simulink modelling to achieve maximum stepper motor speed and accuracy.
- Achieved top 5 time out of 30 other groups, sorting 48 pieces in 26 seconds.

Boxing Match Animation March 2025

- Designed a complex mechanical automaton simulating a boxing match, integrating Geneva wheels, cam systems, slider-cranks, and four-bar linkages
- Synthesized mechanisms using analytical and graphical methods, ensuring proper timing, synchronization and mechanical function of multiple motion subsystems
- Utilized CAD software (SolidWorks) for detailed modeling, assembly and animation of interdependent components

15MW Gear Box Proposal Fall 2024

- Alongside a team of 5, created a detailed proposal for a 3-stage 15MW gearbox, working together effectively over the course of the project to achieve a final grade of 91%
- Personally contributed significantly to failure analysis of shafts, spur gears, bearings, couplings, and fasteners to develop specifications of gearbox
- Created an expansive spreadsheet (Excel) to automatically update specifications given input changes
- Modelled gearbox assembly in SolidWorks, containing over 50 individual parts.

UVEC Senior Design Competition October 2024

- Competed amongst 70 students within a team of 4 for a design competition hosted by UVic Engineering & Computer Science Students' Society, sponsored by Celerity and RJC
- Designed a VEX robot and developed code (C) that could locate an IR-emitting target, pick it up, and return to its start position whilst avoiding obstacles and staying within a boundary marked by tape
- Created a 2 DOF levelling arm to pick up and drop off IR-emitter
- Held a presentation of final product to the judges, members of the industry, and alumni

ACTIVITIES/INTERESTS

- Played hockey for over 10 years at a highly competitive level
- Enjoyer of many high-adrenaline sports such as skiing, mountain biking, and surfing

REFERENCES

Available upon request