

CARMINA ROCHELEAU

Mechanical Engineer EIT

📞 250 - 580 - 6223 @ carmina@rocheleau-engineering.com 📍 Squamish, BC

PROFESSIONAL SUMMARY

Mechanical Design Engineer with 3+ years of hands-on experience in developing integrated mechanical systems across the medical, renewable energy, and marine sectors. Skilled in CAD, CFD, and DFM, with a proven track record of cost reduction and improving product reliability. Strong collaborator within cross-functional teams, and in fast-paced startup environments.

MISSION STATEMENT

Committed to advancing technologies that balance performance, product value, and sustainability. Focused on designing solutions that reduce environmental impact through smarter engineering, practical innovation, and interdisciplinary collaboration. Dedicated to delivering efficient, scalable, and sustainable mechanical solutions that support a cleaner, more resilient future.

PROFESSIONAL EXPERIENCE

Electromechanical Support Specialist

Dometic

📅 08/2025 - Present 📍 Victoria, Canada

- Analyzed product failure data and support case trends to identify root causes, documentation gaps, and opportunities for design and knowledge-base improvements. Improving customer experience by 40%.
- Created a test and validation plan for an AI diagnostic model. Defined test scenarios, acceptance criteria, and verification methods resulting in 1 month advance deployment time.
- Provided technical support to clients, OEM partners, and field technicians, answering roughly 500 phone calls and 840 emails a month.
- Diagnosed electromechanical, power electronics, and system-integration issues across solar energy products.

Mechanical Engineer Co-op

Starfish Medical

📅 01/2024 - 05/2024 📍 Victoria, Canada

- Informed material selection by conducting chemical compatibility tests on PLA, Nylon 12, and PEEK over 100 isopropyl alcohol exposure cycles.
- Enhanced design evaluation by integrating ocular anatomical data from 52 medical imaging datasets into Python analysis tools, improving assessment accuracy by 20%.
- Developed and validated FEA and MATLAB models for rod-spring hinge-pin assemblies, analyzing stress and verifying with analytical calculations across 3 components.
- Improved mechanical safety margins by a factor of 4, for multiple components by employing engineering fundamentals.

FIND ME ONLINE



Portfolio

rocheleau-engineering.com



LinkedIn

www.linkedin.com/in/carminarocheleau/

EDUCATION

Bachelor of Mechanical Engineering

University of Victoria

📅 01/2023 - 12/2024 📍 Victoria, Canada

- Mechatronics Pathway Certificate

Advanced Diploma in Mechanical Engineering

Camosun College

📅 01/2022 - 12/2022 📍 Victoria, Canada

Diploma in Mechanical Engineering Technology

Camosun College

📅 01/2019 - 12/2021 📍 Victoria, Canada

Certificate Adventure Guide

Thompson Rivers University

📅 01/2015 - 12/2016 📍 Kamloops, Canada

LANGUAGES

Spanish

Intermediate



CERTIFICATIONS

Occupational First Aid Basic (OFA 1)

Valid 2026 - 2029

PROFESSIONAL EXPERIENCE

Mechanical Engineer Co-op

Ocean Networks Canada

📅 04/2023 - 08/2023 📍 Victoria, Canada

- Utilized FEA to improve longevity of a 20ft welded beam, by pinpointing and redesigning common failure points.
- Engineered hydraulic actuator and davit system for deploying 760-lb marine structures from moving vessels, ensuring operator safety and material durability.
- Coordinated CNC machining of marine-grade parts with ± 0.05 mm tolerance, ensuring durability against ocean currents and iceberg impacts.
- Specified mooring systems for 2+ years Antarctic submersion to withstand environmental loads, corrosion, and ice impact.

Mechanical Engineer Co-op

Origen Air

📅 04/2022 - 08/2022 📍 Victoria, Canada

- Fine-tuned PWM-based fan speed control (490 Hz) to optimize airflow and energy efficiency in air filtration systems.
- Engineered a Flutter/Dart user interface enabling secure client login, remote monitoring, and control of multiple units.
- Reduced assembly time by 45% by leading a team to create assembly manuals and technical documentation for manufacturing.
- Built 50 PCB boards and designed wiring harnesses supporting product development and prototyping phases.

Mechanical Engineer Co-op

AML Oceanographic

📅 09/2021 - 12/2021 📍 Victoria, Canada

- Designed three high-pressure calibration systems operating at 10,000 psi and -5 to 10°C for oceanographic sensors achieving $\pm 0.05^\circ\text{C}$ accuracy.
- Upgraded efficiency by improving configurations of five sensor setups for compact, multi-sensor testing.
- Reduced project costs by 15% to under \$100K by identifying supply chain savings for critical components.

Additional Experience

Stark CNC - Water jet Technician

Various - Lead Guide & Instructor

REFERENCES

References available upon request

CORE COMPETENCIES

Mechanical Design

Systems Integration

Process Optimization

Troubleshooting

Supplier and Vendor Collaboration

CAD (Fusion360, SolidWorks)

Project Leadership

Data Analysis

Technical Documentation

Safety and Regulatory Compliance

Cross-Functional Coordination

AWARDS

💎 2023 - BC Tech Scholarship

💎 2023 - Shannon Rogers Roy Bursary Recipient

💎 2021 - Camosun College Best in Show

VOLUNTEERING

Photographer & Helping Hand

Dogs of Imsouane - 2025

📍 Morocco, Africa

Facility Coordinator

Olive Branch - 2020

📍 El Chorro, Spain

Child Activities Coordinator

CFC Organization - 2012

📍 Uganda, Africa

INTERESTS

+ Sewing / Garment Design

+ Rock Climbing

+ Mountain Biking

+ Ski Touring