Lyra Fletcher

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EDUCATION

University of British Columbia *Expected Graduation: May 2028*

Bachelor of Applied Science – Mechatronics, Mechatronics

- **Availability:** May 2026 – September 2026 (4 months)
- **CGPA:** 87.5% | Computation in Engineering Design (98%), Experimental Physics (94%)
- **Awards:** Schulich Leadership Scholarship - $80 000 | McEwan Family Biomedical Scholarship - $25 000

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Java, Python, MATLAB, HTML
- **Design:** SolidWorks (CAM, FEA and Fluid Sims), Ansys (Fluent and Mechanical), Creo, LightBurn, TracePro
- **Manufacturing:** Welding – TIG, MIG, Laser Cutting, CNC, 3D Printing, General Machining, Hand Tools
- **Data Analysis and Collection:** MS Suite, Tracker Video Analysis and Modeling, Oscilloscope
- **Languages:** English (Native), French (Intermediate), Spanish (Intermediate)

TECHNICAL EXPERIENCE

NETGEAR, Vancouver, B.C. *May 2025 – January 2026*

Mechanical Engineering Co-op

- Designed and FEA-validated a PCB i-PEX connector assembly tool, reducing assembly time by 15% and improving operator ergonomics.
- Developed an improved screen assembly rig, increasing assembly throughput by 30%.
- Designed a UV resin curing system to solidify waste resin for safe disposal, reducing hazardous waste disposal costs and improving lab safety and regulatory compliance.
- Supported thermal analysis of mobile hotspots and created a standardized simulation protocol enabling in-house preliminary CFD/FEA and rapid design iteration.
- Designed, simulated, and released to production optical light pipes to improve RGB LED mixing and brightness in Pro AV products.

ENGINEERING STUDENT TEAMS

Thunderbikes, University of British Columbia *September 2023 – Present*

Mechanical Subteam Lead

Developing an all-electric racing motorcycle - won first in the 2024 Motofest of Monterrey.

- Lead a 20-person multidisciplinary team on a ground-up vehicle redesign, running structural FEA and CFD in ANSYS Fluent/Mechanical to optimize cooling, battery, chassis, and suspension performance.
- Designed, analyzed, and fabricated a motorcycle dynamic stand and non-conductive 40 kg battery enclosures using SolidWorks and TIG/MIG welding within a 3-person team.
- Led a 4-person subteam to design and manufacture a liquid cooling circuit and custom barbs, increasing system heat rejection to 16 kW (+41% YoY).
- Designed and validated battery cooling plates, achieving 8 kW heat removal and reduced thermal gradients, modelling heat transfer in Python and MATLAB.

TECHNICAL PROJECTS

Automated Naloxone Injector, Personal Project *June 2020 – June 2024*

Developed a basic prototype of wearable Narcan Naloxone administrator to combat the opioid epidemic.

- Applied pulse oximetry biometrics, collected from a self-made **Arduino** wrist-oximeter, to monitor blood-oxygen levels and theoretically determine, by hypoxic analysis, if an overdose is occurring.
- Designed PCB and linear actuator injection sequence to minimize device profile, accomplished using a horizontal needle and curved injection pathway.
- Used **SolidWorks** and **Bambu Studios** to **3D print** casing to house PCB and linear actuator injection components.

EXPERIENCE - See More

Pharmacy Assistant and Cashier at Alert Bay Drug Store *June 2018 - Present*

President of UBC Foundation for International Medical Relief *September 2022 – Present*

- *Red Cross Certified First Responder and Basic First Aid Instructor.*
- *Fundraised over $4500 from 2022 – 2024.*

Founding Director of Clinical Care – UBC First Aid Support Team *September 2025 – Present*