

Lyra Fletcher (She/Her) Mechanical Engineering

Vancouver, B.C. lyrafletcher@outlook.com | 250 974 4293 | www.linkedin.com/in/lyra-fletcher-ubc

TECHNICAL SKILLS

Programming Languages

- C, C++, Java
- Python
- MATLAB
- HTML

Design and Robotics

- SolidWorks
- LightBurn
- LinuxCNC
- Arduino
- Bambu Studio

Manufacturing

- Welding – TIG, MIG
- Laser Cutting
- 3D Printing
- General Machining: lathe, chop saw, drill press, band saw, etc.

EDUCATION

University of British Columbia

Bachelor of Applied Science – Mechanical Engineering, Mechatronics
CGPA: 89.5%

Expected Graduation: May 2028

Certifications:

- Red Cross First Responder 2023
- First Aid and CPR C Instructor 2023

OTHER WORK EXPERIENCE

Alert Bay Drug Store, Alert Bay, B.C.

June 2018 – Present

Summer-time Clerk & Pharmacy Assistant

- Assisted in the dispensary preparing and delivering prescriptions to patients.
- Digitized freight invoicing system to streamline product receiving and reduce paper usage.
- Collected payments and facilitated the sale of merchandise and BCLC Lottery Tickets efficiently as the only clerk.
- Independently learned HTML to develop and maintain the store website as well as implement an online ordering system during the pandemic.

Cheslakees Elementary, Port McNeill, B.C.

October 2020 – June 2021

Youth Reading Mentor

- Developed individualized learning plans for kindergarten students requiring additional support learning basic reading, writing, and math skills.
- Provided mentorship and emotional support to children with learning disabilities.
- Aided kindergarten teacher in running a classroom of 25 children, providing support during classroom activities and pre-class preparations.

TECHNICAL PROJECTS

Automated Naloxone Injector, Personal Project

June 2020 – June 2024

- Developed wearable Narcan Naloxone administrator to combat the opioid epidemic, as nearly 80% of more than 115,000 deaths annually occur when the patient is alone.
- Used pulse oximetry biometrics, collected from a self-made Arduino wrist-oximeter, to monitor patients' blood-oxygen levels and determine, by hypoxic analysis, if an overdose is occurring.

- Used SolidWorks and Bambu studios to 3D print casing to house PCB and linear actuator injection components.

Parking Assist Sensor, Personal Project

June 2024 – August 2024

- Designed a measurement tool to aid drivers with forward stall parking by indicating the distance from various points on the front bumper to an obstacle.
- Integrated multiple ultrasonic distance sensors using Arduino with a Bluetooth display, housed in a Bambu Lab designed and 3D printed case.
- Utilized Matlab and Python software to develop distance algorithms and account for parallax.

ENGINEERING STUDENT TEAMS

Thunderbikes, University of British Columbia

September 2023 – Present

Battery Project Lead – Mechanical Sub team

- Currently working to develop an all-electric racing motorcycle, most recent iteration won first in the 2024 Motofest of Monterrey Formula Lightning Class.
- Collaboratively designed and manufactured a motorcycle dynamic stand and upper and lower battery case frames using SolidWorks as well as physical machining skills of MIG/TIG welding and use of general machine shop tools.
- Independently designed and manufactured motorcycle cooling circuit connecting radiators, battery, motor, pump, and motor controller with aluminum hose barbs using Lightburn laser cutting, LinuxCNC, and a lathe.
- Ran finite element stress tests and fluid dynamics simulations on models using SolidWorks.

VOLUNTEER EXPERIENCE

UBC Foundation of International Medical Relief, Vancouver, B.C

September 2022 – Present

President (2024 – Present), Vice President (2023 – 2024), Secretary (2022 – 2023)

- Fundraised over \$4500 for FIMRC Project sites in the period of 2022-2024.
- Assisted with giving vaccinations, medications, and clerical duties in the FIMRC Alajuelita clinic in May 2023 as a First Responder.
- Assisted in CPR training, glucose values collection and training, and blood pressure values collection and training in the FIMRC Anconcito clinic in May 2024 as a First Responder and First Aid Instructor.
- Organized and assisted in multiple CPR and naloxone training seminars for the UBC community.

UBC Dance Club, Vancouver, B.C

September 2022 – Present

External Vice President (2023 – Present), Secretary (2022 – 2023)

- Organized and executed mini “Intro to Ballroom” lessons aimed at introducing First Year students to Ballroom Dancing.
- Handled all public relations for the club including obtaining and upholding sponsorship agreements as well as designing new merchandise for club promotion.
- Worked to connect the UBC and Vancouver Ballroom communities by hosting social dancing events throughout the city.

AWARDS

UBC Schulich Leadership Scholarship - \$80 000

2022

McEwan Family Biomedical Entrance Scholarship - \$25 000

2023