

Robbie Laughlen

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Education

University of British Columbia

BSc Combined Computer Science and Physics

- Dean's Honour List

Vancouver, Canada

Sept 2020 - April 2025

Experience

3DQue

Fullstack Developer Intern

- Led the redesign of key UI components using React and Tailwind CSS, including an overhaul of the tagging system for new users.
- Improved API response times by 40% through code optimization and efficient data handling in Java and Go, enhancing overall system performance.
- Contributed to the development of scalable infrastructure, enabling the management of over 1,000 autonomous 3D printers with minimal downtime.

Vancouver, BC

May 2024 - August 2024

MineSense | 7x Global Cleantech 100

XRF and VNIR Integration Co-op

- Assisted in advancing sensor research aimed at optimizing ShovelSense, a pioneering mining solution that integrates high-speed XRF sensors on mobile equipment for real-time ore body analysis
- Developed software to interact with x-ray detector hardware and output metrics as an improved user experience, reducing the average XRF sensor testing time by over 50%.

Vancouver, BC

May 2022 - Jan 2023

Projects

yapyap 📄 | React Native, Python, Tensorflow, MongoDB, AWS

nwHacks Project Winner

- Co-developed 'yapyap', a journaling platform that analyzes emotions using a Bidirectional RNN sentiment analyzer.
- Utilized React Native for mobile development, Figma for UI/UX design, AWS for cloud services, and TensorFlow for machine learning.
- Integrated Amazon Web Services Lambda and API Gateway to establish an efficient API for reading and modifying a MongoDB database.

Vancouver, BC

2024

X-ray Detector Analytics Program 📄 | Python, Dash, Linux, Qt

Minesense

- Developed a Dash-based interactive interface to streamline data collection and analysis.
- Implemented real-time metrics display, including radiation count rate, for the Ketek VIAMP H50 detector, improving operational efficiency.
- Designed and created a dynamic live graphing service for XRF data using Python, facilitating real-time visualization and analysis of data trends.

Vancouver, BC

2022

Multiband Compressor Audio Plugin 📄 | C++, JUCE

Personal Project

- Created an audio processing application featuring a 3-Band Compressor with Spectrum Analyzer, leveraging the JUCE framework and modern C++ for real-time audio signal manipulation.
- Focused on integrating digital signal processing algorithms, GUI design, and efficient coding practices to minimize latency.

Vancouver, BC

2024

Skills

Languages Python, HTML/CSS, JavaScript, C/C++, R, Java, Typescript, Go

Software Git/GitHub, Visual Studio Code, IntelliJ IDEA

Technologies React, React Native, Node.js, Flask, Dash, Qt, Expo, TensorFlow, Tailwind

Achievements

- 2024 **Sustainability Track Winner**, StormHacks
- 2024 **Best Design, Community and Connection Track Winner**, nwHacks
- 2023 **Research Grant**, Google Vulnerability - LLM bugSWAT
- 2022 **Best Music (x2)**, UBC Game Developer Awards