Robert Laughlen

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Education

University of British Columbia — *Vancouver, Canada*

BSc Combined Computer Science and Physics | cGPA 3.73 — *Sept 2020 - April 2025*

- Dean's Honour List

Experience

3DQue — *Vancouver*

Fullstack Developer Intern — *May 2024 - Jan 2025*

- Led UI component redesign using React and Tailwind, creating an introductory tagging system that aided users in 3D print categorization.
- Optimized API response times by by rewriting critical endpoints in Go for better concurrency, reducing response times from 1.4s to 0.8s.
- Developed the Direct2Print system, enabling seamless integration with Shopify and Etsy platforms, resulting in increased user acquisition and streamlined order processing.

MineSense | *7x Global Cleantech 100* — *Vancouver*

XRF and VNIR Integration Co-op — *May 2022 - Jan 2023*

- 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%.

Projects

yapyap | *React Native, Python, Tensorflow, MongoDB, AWS* — *Vancouver*

nwHacks Finalist — *2024*

- 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.

X-ray Detector Analytics Program | *Python, Dash, Linux, Qt* — *Vancouver*

Minesense — *2022*

- Built Dash-based interface with real-time metrics for Ketek VIAMP H50 detector, streamlining data collection.
- Created a Python-based live graphing service for XRF data, enabling real-time visualization and analysis of complex data trends.

Multiband Compressor Audio Plugin | *C++, JUCE* — *Vancouver*

Personal Project — *2024*

- 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.

Skills

Languages	Python, HTML/CSS, JavaScript, C/C++, R, Java, Typescript, Go
Software	Git/GitHub, Visual Studio Code, IntelliJ IDEA, Docker
Technologies	React, Node.js, Flask, Dash, Qt, Expo, TensorFlow, Maven, REST, AWS

Achievements/Qualifications

- 2024 **AI for Software Development Certificate**, DeepLearning.AI
- 2024 **Sustainability Track Winner**, StormHacks
- 2024 **Best Design, Community Track Winner**, nwHacks
- 2023 **Research Grant**, Google Vulnerability - LLM bugSWAT
- 2022 **Best Music (x2)**, UBC Game Developer Awards

Interests

- **Audio Production:** Passionate about sound design, synthesis, songwriting, and mixing/mastering
- **Sport:** Intramural Volleyball Captain, Certified Cycling Coach
- **Travel:** Visited 27+ Countries
- **Citizenship:** UK, Canada, Trinidad
- **Charity:** Raised 1000s through music and sport events
- **Game Dev:** Participate in game jams, regularly creating short-form games