Robbie Laughlen

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Education

University of British Columbia *Vancouver, Canada*

BSc Combined Computer Science and Physics *Sept 2020 - April 2025*

- Dean's Honour List

Experience

MineSense | *7x Global Cleantech 100* *Vancouver, BC*

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

- Conducted high-voltage testing and contributed to research with the goal of improving MineSense technology, focusing on their ShovelSense system.
- Developed software to interact with x-ray detector hardware and output metrics as an improved user experience.

UBC Instructional Support and Information Technology Office *Vancouver, BC*

Project Assistant *Sept 2023 - May 2024*

- Executed maintenance tasks and provided technical support across a diverse range of situations.
- Collaborated with the team to implement software updates, diagnose hardware issues, and ensure smooth functioning of instructional technology.

Projects

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

nwHacks Project Winner *2024*

- Co-developed 'yapyap', a unique and innovative platform that leverages the therapeutic benefits of journaling, providing a space for users to share their thoughts while maintaining a sense of safety and authenticity.
- Utilized a comprehensive tech stack, including React Native for mobile development, Figma for UI/UX design, AWS for cloud services, and TensorFlow for machine learning, showcasing proficiency in a diverse set of technologies.
- Incorporated a Bidirectional Recurrent Neural Network (RNN) as a sentiment analyzer to analyze emotions within journal entries.
- Integrated Amazon Web Services (AWS) Lambda and API Gateway to establish an efficient API for reading and modifying the MongoDB database.

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

Minesense *2022*

- Utilized the Dash framework to develop an interactive interface for seamless interaction with the Ketek VIAMP H50 detector, enabling efficient data collection and analysis. Showcasing various metrics including radiation countrate.
- Designed and created a dynamic live graphing service for XRF data using Python in conjunction with the powerful Dash framework, facilitating real-time visualization and analysis of data trends for enhanced insights and decision-making.

Heart Failure Risk Analysis | *R* *Vancouver, BC*

University of British Columbia *2021*

- Trained model on heart failure data to predict risk of heart failure in various groups.
- Performed a 10-fold cross-validation split on the trained data, utilizing k-nearest-neighbors and a confusion matrix to optimize, evaluate, and create a robust classification model.

Skills

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

Software Git/GitHub, Visual Studio Code, IntelliJ IDEA

Technologies React, React Native, Node.js, Flask, Dash, Qt, Expo, JUCE

Achievements

2024 **Best Design, Community and Connection Track Winner**, nwHacks *BC*

2023 **Research Grant**, Google Vulnerability - LLM bugSWAT *BC*

2022 **Best Music (x2)**, UBC Game Developer Awards *BC*