

Bryan L. Luu

SOFTWARE DEVELOPER

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Summary

I am a software professional with diverse experience; I've worked across experimental physics (3 years), web-development (3 years), climate-tech (2 years). I offer a foundational STEM-oriented approach to solving real-world problems with dedication and passion.

Work Experience

OPEN Technologies

Vancouver, BC, Canada

INTERMEDIATE SOFTWARE DEVELOPER

June 2022 - April 2024

- Responsible for **Agile** feature-development and maintenance of OPEN's flagship product, GRID, by implementing software in **Clojure, JavaScript, HTML/CSS, PostgreSQL**, often closing the highest number of tickets per sprint.
- Established the development process for GRID's content management system (CMS) using **GraphQL** as a core new feature for users across 6 municipalities
- Designed full-stack data infrastructure and visualizations for a new project serving **70,000 homes in Saskatoon**

Proof Data Technology Inc.

Remote

SOFTWARE DEVELOPER

June 2021 - December 2021

- Delivered value to government workers across Canada by maintaining features of the platform across the stack (**Ruby-on-Rails, Vue/JavaScript, HTML/CSS, PostgreSQL**) as part of a team of 6 developers
- Empowered users and improved workflows for users and developers alike by developing core new features, including one pursued independently that impacted all users
- Contributed to team progress by deploying **Agile** software practice and performing GitHub *Pull-Requests*

University of Wisconsin-Madison - Wisconsin Power Systems Group

Madison, WI, U.S.A.

RESEARCH ASSISTANT

August 2020 - January 2021

- Simulated a small power grid with various converter configurations in **MATLAB** from scratch
- Analyzed grid stability of different control (grid-following, grid-forming, etc) schemes on the modeled grid
- Provided simple abstractions and helpful documentation for the next user/researcher to build arbitrary power models

UBC XUV Spectroscopy Laboratory

Vancouver, BC, Canada

SOFTWARE ENGINEER + LAB ASSISTANT

September 2016 - December 2016

- Developed **GUI** program using **Qt's Python** bindings enabling the control of Piezo-electronics and high-speed cameras for the lab's main experiment setup.
- Expanded the program into a different **camera application** to track a mineral sample to within 50 microns using **Open CV** computer vision library.
- Fixed an **FPGA** servo system for use in experiment and to lock laser frequency for long term stability.

University of Innsbruck / Institute for Quantum Optics and Quantum Information (IQOQI)

Innsbruck, Austria

SOFTWARE ENGINEER + LAB ASSISTANT

Jun. 2015 - Dec. 2015

- Maintained a central **Qt C++** application that controlled the lab's main experiments as the lead developer.
- Improved the **GUI**, culminating in the implementation of a large new feature, the User **API**, that allowed researchers to specify custom behaviors easily through **Python** scripts or other processes.
- Guided a team of developers to tackle program-related tickets, acting as the program's expert and giving informative presentations to share knowledge.

UBC Brain Behavior Laboratory

Vancouver, BC, Canada

SOFTWARE ENGINEER

Jan. 2014 - Apr. 2014

- Deployed **MATLAB** understanding to create a MRI-synchronized game for the Eaton School of Learning, analyzing the effects of plastic learning in autistic children.
- Modified and developed a **C#** game which uses Microsoft Kinect to track stroke patient's plastic motor learning.
- Eliminated redundant programs and enabled collaborative projects by introducing **Git and GitHub** version control.

Education

University of Wisconsin-Madison

M.A. IN **PHYSICS**

Madison, WI, U.S.A.

August 2018 - August 2021

- Awarded Fellowship worth \$6,000 USD
- Passed PhD qualification exam on first attempt
- 50%-time Teaching Assistant

UBC (University of British Columbia)

B.A.Sc. IN **ENGINEERING PHYSICS** - ELECTRICAL ENGINEERING OPTION

Vancouver, BC, Canada

Sept. 2012 - May 2018

- Cumulative Marks: 87.7%
- Dean's Honour List (2012-2014, 2016)
- Natural Sciences and Engineering Research Award (NSERC) (2016)

Credentials & Awards

Certificate in Sustainable Business

STUDENT

BCIT

September 2024 - June 2025

Tech Stewardship Certification of Completion

TECH STEWARD

Online

May 2024 - August 2024

Smart-grid Optimization - Top Project

OPTIMIZATION COURSE PARTICIPANT

UW-Madison

June 2019

Skills

Data Analysis / Visualization	Can perform data analysis and create visualizations to communicate findings
Embedded Systems	Trained to handle implementation and debugging in lower-level code such as C/C++ and VHDL/Assembly
Web Development	Has technical fluency to understand and debug website issues and suggest web solutions
Scripting/Automation	Working knowledge of scripting languages such as Bash or Python
Applied Science	Equipped with strong foundation of STEM essential skills to tackle diverse technical problems
Communications	Strong in written and verbal communication with comfort in public-speaking

Selected Projects

GRID Arcade

DESIGNER + DEVELOPER

Personal Project

August 2025 - Present

- Built a custom arcade in **C++** using an **Adafruit Metro M0** MCU with an LED matrix display (see [GRID-Arcade](#) on GitHub).
- Practiced **Object-Oriented** programming and **Memory-efficient Design** to implement different 4 different game-modes on limited hardware.
- Developed an **emulation** of software to debug control and game logic before hardware testing.
- Collaborated with a mechanical engineer to package system into a polished and robust product.

UBC Sailbot (Student Team)

CORE SOFTWARE MEMBER & CONTROLS LEAD

UBC

September 2013 - August 2016

- Developed core **C++** control logic, **RS232** serial sensor forwarding, system simulation, along with power systems design.
- Led research and development for new control system architectures, creating a boat simulation with components connected via **CAN-Bus**.
- Revamped the previous Thunderbird boat, improving the **Python** code structure and repairing electronics, ultimately resulting in a *1st place, 50/50 finish at the 2014 International Robotic Sailing Regatta*.