

# Jordan Carlson

<https://Jordanrcarlson.github.io/portfolio>

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## Electrical Engineer (EIT)

Outcome-driven electrical engineering with inventive development strategies, combining business fortification goals with disciplined engineering tactics.

## Areas of Expertise

- Electrical systems integration
- Technical requirements definitions
- Applying design specifications
- Sensitive system protection design
- Sourcing/ordering technical materials
- AI automation tools
- Adhering to strict Code and standards
- Integrating tasks with documentation
- Technical security, stability, and reliability
- System troubleshooting and testing

## Education

- **B.Eng** - Co-op Electrical Engineering - Graduated 2022 University of Victoria
- **EIT Certification** - Pending final approval Engineers and Geoscientists BC

## Work Experience

### System Developer/Integration Engineer – Salyx Medical 2021-2025

- Led a long-term compact vital signs monitoring system development team to achieve proof-of-concept for medical-grade accuracies through leading-edge hardware applications and new software research implementation.
- Managed Agile projects, code version control, and technical documentation.
- Utilized data processing and visualization to validate and improve the grade of measurement certainties for accurate advertising and to prepare for clinical test trials.
- Prioritized troubleshooting strategies for open-source embedded systems for the optimization of resources, processing speed, power, sensitive sensor integration, and output modularization.

### System Testing Engineer – Carmanah Technologies 2022-2023

- Created and implemented efficient troubleshooting systems with three technical developers, two product design managers, two hardware specialists and a system cloud maintainer.
- Collaborated to refine product requirement specifications and develop test strategies for the integrated electrical, firmware, and software infrastructures.
- Created and updated scripts, correlating documentation and development strategies.
- Managed and updated script software and firmware repositories.
- Led the creation, testing, and optimization of software applications to automatically set system

characteristics during system manufacturing.

- Independently designed and developed a solar traffic system simulation with a measurement and automation device system to examine long-term, continual system functionalities.
- Headed testing system stability and reliability assurance by producing complex unit-testing algorithms for large system output simulation results.
- Structured debugging for app-controlled networks.
- Instantiated full-system quality assurance, utilizing scripting for automated, documented tests.

## **Embedded Software Developer – Ergonomyx Technologies Inc.**

2020-2022

- Managed feature development for IoT devices from MVP completion to several production waves, verifying product stability reliability and generating \$1 million in revenue.
- Wrote approved grant applications from applied development processes.
- Granted a patent for the Ergonomyx smart workplace fitness ecosystem.
- Developed tests for UL safety inspection and certification.
- Minimalistically integrated wireless communication protocols: Bluetooth, Wi-Fi, MQTT, AWS IoT Core cloud connectivity, and the proprietary Ergonomyx API's over-the-air firmware updates feature with RTOS.

## **Lead Hand – Precision Well Servicing**

2015-2018

- Led five-person crews to complete physically demanding, technical operation procedures.
- Coordinated the team throughout extensive days and nights, optimizing production time while advancing safety protocols and fortifying positive attitudes within the team.

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## **Technical Specialties**

- Defining and delegating requirement specifications (such as instrument engineering and circuit simulation software) and programming (such as Python, C++, Java and JavaScript) programming infrastructures.
- Residential construction design (following the Canadian Electrical Code and AutoCAD).
- Managing data processing (such as using Pandas, numPy, sciPy, Keras, and SciKit-Learn) with graphics for intuitive analysis (such as with Matplotlib in Python and MATLAB).
- Optimizing data collection procedures, and translating data with various input protocols (such as JSON strings, type-packed bytes, and firmware protocols such as serial data and i<sup>2</sup>C).
- Complex spreadsheeting and project reporting in Microsoft Office and Google Suite.
- Coordinating workflows and documentation (such as using the Agile Atlassian suite: Jira, Confluence, and Kanban).
- Development version control (with Gitlab, Bitbucket, Gitkraken, Sourcetree, and CLI).
- Leveraging AI automation development tools (such as Notebook LM and Magentic One).

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## **Personal Interests**

- **Independent Projects:** Permitted residential contracting renovations including Canadian Electrical Code adherence and AutoCAD design. Also implemented prospective hardware, SoCs, and software frameworks.
- **UVic Rocketry Club:** Controls and instrumentation: This included development in LabView, PCB design for avionics using Altium, engine valve control in a hybrid propulsion prototype, SoC controls, and low-cost, reliable wireless networks.
- **Code Hack 2020 and RFP bid:** Researched, conducted interviews, and wireframed an app utilizing Island Health's current web infrastructure to personalize health records. Then, co-led the team in curating a technical RFP response.