

Rafe McDonald

Python & Full-stack Developer
Nelson BC
250-551-7116

Email phidelityaudio@gmail.com
Website phideliti.com
Resume rafe.phideliti.com
Github [phidelity28](https://github.com/phidelity28)
LinkedIn [rafemcdonald](https://www.linkedin.com/in/rafemcdonald)
Stackoverflow [phideliti](https://stackoverflow.com/users/10444444/phideliti)

PROFILE

I work at the intersection of Python development, full-stack web applications, and industrial automation. On the web side, we've shipped production systems using Flask, Node.js, and modern front-end tooling. On the industrial side, I've contributed to SCADA/RX3i and real-time monitoring solutions that support day-to-day operations in the field. Alongside this, I've built freelance sites ranging from early concept pieces that help groups clarify their brand to product-centered builds for clients. During my internship, I collaborated with industry teams on ML-driven projects, including acoustic event detection and computer vision for lumber grading, which strengthened my ability to translate real-world problems into technical solutions. Across web, data, and industrial projects, I focus on clear communication, maintainable systems, and collaboration that turns complex requirements into tools teams can rely on. Along the way, I've had the opportunity to work across backend services, dashboards, data pipelines, infrastructure, and rapid AI-driven code review and annotation work, so I'm comfortable moving between layers and helping connect the bigger picture.

EXPERIENCE

Junior SCADA/RX3i Python Developer, Enterprise Group Inc., Nelson BC	(2025)
Freelance Full-Stack and Python Developer, Phideliti, Nelson BC	(2024/25)
Code Reviewer/ Python Developer, Data Annotation Tech, Nelson BC	(2024)
Advanced Computing Research Intern, Selkirk College, Nelson, BC	(2023/24)
Technical Sales Rep, Natural Insect Control, Nelson, BC	(2018/23)

SKILLS

Programming Languages

Python, JavaScript, SQL, Bash, PowerShell, PHP, HTML5, CSS3, Smalltalk, Chuck, Capytalk

Backend, APIs & Data

Flask (REST APIs), Node.js, PHP (PDO, CRUD), SQLite, MySQL, MongoDB, CSV export tooling

Frontend & Visualization

HTML5, CSS3/SCSS, TailwindCSS, Bootstrap, Vue.js, Quasar, Chart.js, Altair, basic DOM/state management

SKILLS (cont)

Data, ML & Analytics

Pandas, NumPy, SciPy, Scikit-Learn, TensorFlow (YAMNet audio detection), OpenCV, LiDAR/Meshroom workflows, PCA/EDA, time-series anomaly detection, data visualization (Altair, Matplotlib, Chart.js)

SCADA, PLC & Industrial Systems

GE RX3i PLC integration, Modbus/SRTCP protocols, firmware-aware register mapping, multi-threaded data acquisition, SSE/live streaming dashboards, industrial network probing and device discovery, connectivity monitoring, alerting/reporting workflows

DevOps, Servers & Infrastructure

Linux server administration (SSH, services, supervisorctl, pm2), LAMP & MERN deployment, Apache2, Nginx (including reverse proxy), Docker (containerization), ESXi virtualization, VPN/OpenVPN, firewall configuration (iptables, UFW), large-file handling (10GB+ SQLite archives), remote backup and SFTP automation

Web Platforms & Integrations

NextCloud, WordPress, Matomo, Firebase, Mongoose, Postman, SQL Workbench, basic authentication/authorisation design

AI-Assisted Development & Tooling

Cursor AI rules and context frameworks, prompt and context design for complex systems, AI-assisted code and documentation workflows, voice-to-text integration, Model Context Protocol (MCP) research

Version Control, Collaboration & Project Practice

Git/GitHub, small-team collaboration, agile/SCRUM-style iteration, bug tracking, stakeholder updates (operations staff, executives), technical and user-facing documentation

Audio & Creative Technology

Cubase, Logic Pro, Ableton Live, Bitwig, Komplete, Kyma, Peak, Audacity, audio analysis workflows with Librosa/TF (YAMNet)

PROJECTS

SCADA/RX3i Production System: Junior Developer for Python multi-threaded production monitoring system with SCADA/Modbus protocol integration, real-time data acquisition, and a comprehensive front-end dashboard for production-critical remote monitoring and industrial automation control.

Enterprise Group Inc.

PROJECTS (cont)

Wane Detection: Primary researcher and programmer for Python photogrammetry, point cloud and computer vision pipeline intended for an automated quality control detection mechanism.

Selkirk Innovates

Sound Object Identification: Primary researcher and programmer for an automated machine learning pipeline intended for detection, identification and documentation of noise sources for mitigation of community impact.

Selkirk Innovates

Advanced Modular Audio Synthesis: Collaborating member of advanced audio synthesis and effects designers working in Kyma, a hardware-accelerated digital audio synthesis environment.

Kyma Kata

Kyma International Sound Symposium: Presenter of research on physics-based analysis and modelling of sonic systems and implementations within the Kyma environment.

KISS Busan, Korea

EDUCATION

Selkirk College	Full-stack Web Development Certificate (2024/25)
Selkirk College	Advanced Computing Applied Research Co-op Internship (2023/24)
Selkirk College	Co-op Micro-internship Website Development Project (2025)
UBC Extended Learning	Key Capabilities in Data Science, Data Science Certificate (2023)
Selkirk College	UAS- Calculus I & II, Linear Algebra, Foundations in Programming (2021/22)
University of Victoria	Introduction to Java Programming (2017)

REFERENCES

Matt Potter, Managing Director, Swift Grid Media, matt@swiftmedia.ca

Jonathan Doyle, Selkirk Innovates, Advanced Computing Research Director, jdoyle@selkirk.ca

John Robertson, President, Natural Insect Control, JohnRobertson@naturalinsectcontrol.com