







## Contact Information

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## Objective

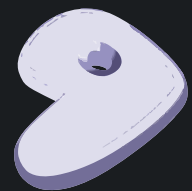
To apply my diverse skills in software development, system integration, and automation to build innovative and efficient solutions. With a focus on learning, adaptability, and collaboration, I aim to contribute meaningfully to projects that benefit from my expertise in cutting-edge tools and technologies, from kernel programming to web development.

## Operating Systems



- ➔ Specialized in leveraging FreeBSD jails to implement lightweight, secure, and isolated environments for applications and services.
- ➔ Automated jail creation, management, and resource allocation using POSIX-compliant scripts to streamline workflows and ensure high efficiency across deployments.
- ➔ Harnessed jails for advanced containerization and virtualized setups, benefiting from FreeBSD's native ability to restrict network, file system, and process access within individual jails.

- ➔ Customized system installations with advanced scripting, leveraging Portage for seamless software compilation and optimization.
- ➔ Built highly modular tools to streamline configuration across Gentoo's flexible ecosystem.



- ➔ Preferred choice for container deployments, leveraging its compact footprint to optimize resource utilization.
- ➔ Expertly configured Linux network namespaces and software-defined networking (SDN) setups, tailoring Alpine Linux to complex networking workflows and high-performance environments.



## ^ Operating Systems

- ➔ Leveraged robust scripting to automate package management and integrate fallback mechanisms for diverse system utilities.
- ➔ Enhanced system performance by utilizing AWK's sorting algorithms and POSIX-compliant modules.



- ➔ Applied exclusively to physical hardware for flashing and customization, creating powerful, tailored networking solutions.
- ➔ Engineered automated scripts and utilities to streamline OpenWRT installations, networking configuration, and device management.
- ➔ Focused on adapting OpenWRT systems to unique hardware constraints and requirements for maximum performance and versatility.

- ➔ Specialized in integrating automation scripts within OpenSUSE's YaST ecosystem to simplify system administration.
- ➔ Developed modular scripting solutions optimized for package management and version upgrades via Zypper, ensuring seamless operations across environments.
- ➔ Focused on leveraging POSIX-compliant tools to enhance script portability and efficiency in OpenSUSE setups.



- ➔ Designed and integrated advanced network frameworks, automating configurations for iproute, eBPF, SELinux, and nftables to optimize system performance and security.
- ➔ Leveraged modular POSIX-compliant scripts to streamline deployment, enhance scalability, and maintain consistency in enterprise-grade networking setups.
- ➔ Developed tools to simplify complex network management workflows, ensuring seamless integration across diverse infrastructure environments.



## ^ Operating Systems

- ➔ Daily driver and foundation for professional, personal, and experimental projects.
- ➔ Fully embraced the rolling release model for immediate access to the latest software and features, aligning with a commitment to explore, test, and innovate with cutting-edge technologies.
- ➔ Designed modular scripts and frameworks to automate system setup and ensure seamless integration of new updates, even when they introduce breaking changes.
- ➔ Viewed Arch not just as an operating system, but as a philosophy of experimentation, adaptability, and continuous learning in software development.
- ➔ Leveraged the Arch User Repository (AUR) through yay and community-driven resources to maintain a highly customizable, high-performance system tailored to ever-evolving needs.



## Languages



- ➔ Leveraged in-depth knowledge of Vim's scripting language to build reusable and modular configurations, ensuring consistency across diverse systems.
- ➔ Adapted scripts to be compatible with both Vim and Neovim, providing universal usability regardless of the environment.

- ➔ Integrated **PHP** into broader toolchains, combining it with JavaScript and other technologies for client-server communication.
- ➔ Customized widely-used PHP tools like phpMyAdmin and phpLDAPadmin, integrating advanced modifications to enhance functionality, usability, and efficiency.
- ➔ Improved database and LDAP management workflows by tailoring these tools to address specific requirements and streamline operations.





## ^ Languages



- Developed complex documentation using both **LaTeX** and Plain TeX, emphasizing precision, customization, and elegant presentation.
- Leveraged TeX to build modular and reusable structures, ensuring professional, polished outputs across documenting coding projects.
- This resume itself serves as a demonstration of my expertise, showcasing TeX as a tool not just for technical writing but for crafting intricate documentation.

- Transitioned completely to POSIX Shell scripting for increased portability, minimalism, and compliance across systems.
- Developed high-performance automation frameworks, moving away from Bash while maintaining the ability to script in Bash when required.
- Designed and implemented advanced data structures, including queues, stacks, and linked lists, leveraging AWK's capabilities for high-performance scripting.
- Developed robust algorithms, such as quicksort (qsort) and other sorting techniques, written entirely in AWK for computational precision and speed.
- Crafted modular automation frameworks, integrating AWK-based logic to streamline workflows across diverse environments, while maintaining adaptability to Bash as needed.



- Specialized in using **Python** for **Flask-based** development, building lightweight and scalable web applications.
- Integrated Python as a backend tool for rapid prototyping, client-server communication, and API development.
- Combined Python with other technologies to implement clean, modular solutions that align with project requirements.



## ^ Languages

- ➔ Utilized Perl primarily for XAMPP setups, building and maintaining dynamic web services and tools.
- ➔ Applied Perl for robust text processing and scripting tasks, leveraging its strengths in modularity and speed for specific use cases.
- ➔ Enhanced Perl-based workflows by integrating with broader toolsets and scripting frameworks.



- ➔ Developed kernel modules, demonstrating an advanced understanding of low-level programming, memory management, and system interactions.
- ➔ Wrote high-performance code for critical systems, ensuring reliability and efficiency in hardware-software communication.
- ➔ Completed training in C++ through [freeCodeCamp](#), gaining proficiency in object-oriented programming, data structures, and algorithms.

- ➔ Built web applications and tools using [Ruby](#) on [Rails](#), focusing on rapid development, clean design, and scalability.
- ➔ Leveraged Ruby's flexibility to create modular, maintainable codebases for both personal and professional projects.
- ➔ Gained deep expertise in the Ruby ecosystem by integrating third-party libraries and ensuring seamless deployment processes.



- ➔ Applied Java to implement and optimize [data structures](#), including arrays, linked lists, stacks, queues, and trees, showcasing proficiency in algorithm design and memory management.
- ➔ Developed dynamic and visually engaging applications using [JavaFX](#), integrating responsive user interfaces with robust backend logic.
- ➔ Combined object-oriented programming principles with [Java's](#) rich ecosystem to create scalable solutions for both personal and collaborative projects.



## ^ Languages

- ➔ Utilized Lua extensively for scripting in Neovim, creating custom plugins and automation to enhance the editor's functionality.
- ➔ Applied Lua in LuaTeX for typesetting automation and advanced document customization, leveraging its lightweight and efficient design.



## Web Development



- ➔ Advanced proficiency in **Vanilla JavaScript**, utilizing the core language to develop dynamic, lightweight, and efficient web applications.
- ➔ Specialized in creating interactive front-end components without relying on external libraries or frameworks, ensuring minimalistic and highly performant designs.
- ➔ Implemented custom algorithms and data manipulation logic to enhance browser-based user experiences and optimize DOM interactions.
- ➔ Leveraged JavaScript for event handling, animations, asynchronous programming (Promises, async/await), and API integrations, focusing on clean, modular coding practices.
- ➔ Designed reusable utility functions to streamline development and ensure adaptability across projects.

- ➔ Proficient in using jQuery to simplify DOM manipulation, event handling, and AJAX requests in earlier web development projects.
- ➔ Leveraged its robust and intuitive API to streamline interactions between HTML, CSS, and JavaScript, ensuring cross-browser compatibility.
- ➔ While knowledgeable about its capabilities, transitioned to modern JavaScript techniques (e.g., ES6+, native DOM APIs) as advancements have reduced the necessity for jQuery in contemporary workflows.
- ➔ Retained familiarity with jQuery for maintaining legacy systems and integrating solutions where required.





## ^ Web Development

- ➔ Built structured, semantic web pages using HTML, ensuring accessibility, clarity, and adaptability across devices and browsers.
- ➔ Designed and styled dynamic, visually engaging user interfaces using CSS, with a focus on responsive design and cross-platform compatibility.
- ➔ Combined **HTML and CSS** to craft custom layouts, animations, and interactive elements, creating seamless user experiences.
- ➔ Leveraged modern techniques, including CSS Grid, Flexbox, and media queries, for precision in layout management and responsiveness.
- ➔ Enhanced web applications by integrating CSS animations and transitions to provide polished, user-friendly interactions.



- ➔ Specialized in building scalable and dynamic web applications using the **Rails** framework, renowned for its developer-friendly ecosystem.
- ➔ Leveraged Rails' convention-over-configuration philosophy to streamline development, ensuring efficient workflows and clean, maintainable code.
- ➔ Integrated Rails with RESTful APIs and databases, enhancing functionality through active record, migrations, and associations.
- ➔ Custom-built features and optimized Rails applications to align with project requirements, reducing resource overhead while ensuring high performance.
- ➔ Applied deep expertise in Ruby on Rails to create end-to-end solutions, from database design to front-end integration, emphasizing rapid development without sacrificing quality.

[canine-table-brave-startup-page.onrender.com](http://canine-table-brave-startup-page.onrender.com)  
[stephaniewilsonediting.ca](http://stephaniewilsonediting.ca)

Deployed Sites



## ^ Web Development

- ➔ Proficient in using **Flask**, a minimalist Python web framework, to build lightweight and scalable web applications.
- ➔ Designed and implemented RESTful APIs, seamlessly integrating back-end logic with front-end frameworks to deliver responsive and dynamic applications.
- ➔ Leveraged Flask's extensibility to integrate third-party libraries, optimize performance, and enhance functionality tailored to project requirements.
- ➔ Focused on writing clean, modular code to ensure maintainability and rapid prototyping, taking full advantage of Flask's flexibility and simplicity.
- ➔ Developed end-to-end solutions using Flask, from designing database schemas with SQLAlchemy to deploying applications in production-ready environments.



- ➔ Expert in building responsive and mobile-first web applications using Bootstrap, the only UI framework you need!
- ➔ Leveraged its grid system, pre-designed components, and utilities to rapidly develop elegant and consistent user interfaces.
- ➔ Customized themes and extended Bootstrap's functionality to tailor designs for specific projects, while maintaining its robust, built-in responsiveness.
- ➔ Integrated Bootstrap with modern JavaScript workflows, ensuring seamless compatibility and efficient application development.

- ➔ Created and manipulated SVGs programmatically using Vanilla JavaScript, leveraging the DOM namespace API for precise control and customization.
- ➔ Designed dynamic, interactive graphics by combining JavaScript logic with SVG properties, enhancing web applications with visually engaging elements.
- ➔ Specialized in integrating SVGs into modern web projects, applying advanced techniques for animations, event handling, and real-time updates.







## Education



### Algonquin College - Computer Systems - Networking

- ➔ CST8378 Advanced Enterprise Networking
- ➔ CST8249 Network Security
- ➔ CST8317 Wireless Network Fundamentals
- ➔ CST8248 Emerging Technologies
- ➔ CST8371 Intro to Enterprise Networking
- ➔ CST8342 Windows Enterprise Administration
- ➔ CST8206 Foundation of IT Service Management
- ➔ CST8246 Network Services Administration
- ➔ SCI2200 DyNAmic DNA: You are not alone
- ➔ CST8245 Database Management and Interfacing
- ➔ CST8305 GNU/Linux Server Administration
- ➔ CST8208 PC System Technology
- ➔ CST8315 Routing and Switching Fundamentals
- ➔ CST8200 Windows Domain Administration
- ➔ MAT8002 Numeracy and Literacy
- ➔ ENL1813T Communications I
- ➔ CST8300 Achieving Success in Changing Environment
- ➔ CST8207 GNU/ Linux System Support
- ➔ CST8182 Networking Fundamentals
- ➔ CST8202 Windows Desktop Support



## Certifications

### First Aid Certifications

- ➔ Airway Management
- ➔ Bronze Star
- ➔ Bronze Medallion
- ➔ Bronze Cross
- ➔ WSI Part I
- ➔ WSI Part II
- ➔ NLS (National Lifeguarding Society)
- ➔ AODA online training

## Database



- ➔ Proficient in managing and optimizing MariaDB databases for high-performance and scalable applications.
- ➔ Utilized MariaDB as the primary backend for projects, enabling efficient data storage and retrieval through carefully designed schemas and query optimization.
- ➔ Integrated phpMyAdmin with MariaDB for streamlined database management, customizing its functionality to align with specific project needs.
- ➔ Specialized in writing and optimizing SQL queries, implementing stored procedures, and ensuring data integrity across complex systems.
- ➔ Leveraged MariaDB's compatibility with MySQL to maintain flexibility while benefiting from enhanced features and performance improvements.



## ^ Database

- ➔ Proficient in using MongoDB for NoSQL database management, enabling scalable and flexible data storage tailored to diverse application requirements.
- ➔ Designed and optimized schemas using MongoDB's document-based structure to facilitate efficient querying and data manipulation.
- ➔ Developed and maintained robust systems integrating MongoDB as a backend for dynamic web applications.
- ➔ Leveraged MongoDB's features, such as aggregation pipelines, indexing, and replication, to enhance performance and reliability in high-demand environments.
- ➔ Applied MongoDB expertise to manage unstructured data and implement real-time solutions in modern application architectures.



# SQLA



- ➔ Proficient in using SQLAlchemy, Python's ORM, to simplify database interactions and streamline application development.
- ➔ Leveraged SQLAlchemy with SQLite to design and manage lightweight, file-based databases for small to medium-scale projects.
- ➔ Built efficient database schemas and relationships using SQLAlchemy's declarative model, ensuring clean and maintainable back-end systems.
- ➔ Utilized SQLite for quick prototyping and development, taking advantage of its simplicity and minimal setup requirements.
- ➔ Combined SQLAlchemy's ORM features with direct SQL queries to optimize performance and tailor database operations to project-specific needs.



## Work Experience



IT Assistant to a Doctoral Researcher



University of Sheffield, Sheffield, South Yorkshire, England

- ➔ Provided technical support and assistance to a doctoral researcher, ensuring smooth operation of computing resources and research tools.
- ➔ Assisted in setting up and maintaining hardware, software, and network configurations.
- ➔ Troubleshoot technical issues and resolved them promptly to minimize disruption to the research process.



Instructor



Canterbury Recreation Complex, Ottawa, Ontario, Canada

- ➔ Designed and delivered engaging and informative lessons for students ranging from beginners to level 9.
- ➔ Created customized lesson plans to meet the diverse needs and skill levels of students.
- ➔ Utilized a variety of teaching methods and tools to facilitate learning and keep students motivated.
- ➔ Monitored student progress and provided constructive feedback to help them improve their skills.
- ➔ Organized and conducted practical sessions, demonstrations, and hands-on activities to enhance learning experiences.
- ➔ Fostered a supportive and inclusive learning environment to encourage student participation and engagement.
- ➔ Collaborated with other instructors and staff to ensure a consistent and high-quality learning experience for all students.



## Tools and Technologies



- ➔ Skilled in using iproute2 tools for network configuration, routing, and traffic shaping.
- ➔ Experienced in using nftables for creating complex firewall rules and managing network security.
- ➔ Skilled in using eBPF for network performance analysis, monitoring, and enhancing security.

- ➔ Proficient in creating, managing, and deploying Docker containers. Experienced in writing Dockerfiles and managing Docker Compose files.
- ➔ Skilled in using Podman for container lifecycle management, including building, running, and pushing containers.
- ➔ Experienced in using runc as a container runtime for running and managing containers.
- ➔ Proficient in using containerd for container orchestration and management within Kubernetes clusters.
- ➔ Proficient in using Buildah to create and manage container images, ensuring security and compliance.
- ➔ Experienced in using crun as a container runtime to efficiently manage containerized.



- ➔ Experienced in using Git for source code management, branching, merging, and collaboration in a team environment.

- ➔ Skilled in configuring and customizing Neovim with Lua and Vim script to enhance productivity and streamline development workflows.

