

Spencer Kelly

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TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C, Assembly, Java, SQL, HTML5, CSS3, Markdown, Bash, VBA

Frameworks & Libraries: React, Next.js, Node.js, Express.js, FastAPI, Tailwind, PyTorch, TensorFlow, JWT, Bcrypt

Tools & Platforms: Git, GitHub, VS Code, Linux, Docker, Vite, QEMU, PNPM, Shell scripting, LXC, UNIX

DevOps & Data Bases: AWS, Azure, Vercel, Render, Nginx, CI/CD, MongoDB, PostgreSQL, Redis, SQLite

PROJECTS

Bird Watch

React, TypeScript, Vite | Node.js, Express | Python, NLTK, VADER

Reddit Sentiment Analyzer

- Developed a full-stack MERN and Python application that analyzed **1,000+ Reddit posts** to help students identify “bird courses,” applying NLP models to extract meaningful patterns and insights on course difficulty.
- Developed a **Node.js/Express RESTful API** to interface with the Reddit API, optimizing request handling and data parsing to **improve fetch performance by 30%** and support real-time updates across multiple query parameters.
- Built a **Python NLP pipeline using NLTK and VADER Sentiment Analysis** to clean, process, and classify textual data with **85% sentiment accuracy**, transforming unstructured Reddit content into actionable analytics.
- Designed and implemented a responsive, user-friendly frontend with **React, TypeScript, and Tailwind CSS**, enabling users to visualize complex course analysis and sentiment scores through a clean UI.

MoxBox

React, TypeScript, Vite | Node.js, Express | Proxmox

Lightweight Self-Hosted File Storage Platform

- Designed and deployed a full-stack, **self-hosted** file storage platform to eliminate reliance on third-party cloud providers, offering **secure**, private file access across devices and **full control over data**.
- Secured the platform with **JWT-based authentication** and robust server-side validations using **Multer**, enforcing **upload limit** and strict **MIME-type whitelisting** to prevent unsafe file uploads.
- Architected the backend with reusable controllers, middleware, and centralized error handling, streamlining maintenance and allowing rapid integration of future features like **metadata tagging** and **role-based access control**.
- Deployed the system using **Proxmox LXC containers** with an automated **Alpine Linux Shell script**, reducing hosting complexity and enabling seamless deployment on low-power hardware

Verba

React, TypeScript, Vite

Minimalist Daily Quote App

- Designed and built a **modular, component-based** frontend interface using React and Tailwind CSS, focusing on clarity, simplicity, accessibility, and consistently fast-loading UX across all modern browsers and devices.
- Integrated a **public quote API** and implemented a custom **caching layer** with **localStorage** and **date-based invalidation**, eliminating unnecessary fetches and improving response time for returning users by **100%**.

EXPERIENCE

Laurier Computing Society Club

Waterloo, Ontario | Sept 2025 – Present

Software Engineer

- Develop and maintain the club’s ScheduleApp, a **full-stack MERN** application utilizing React, Node.js, and MongoDB to solve the overhead associated with applicant tracking and interview scheduling for **100+ members**.
- Contribute to open-source development on GitHub within a **9 member Agile team** environment by participating in code reviews, managing PRs/issues, and consistently writing clean, well documented TypeScript code.
- Collaborate with a team of software developers to deliver production ready features and improve project scalability.

Super Sucker Hydro Vac Service Inc.

Hamilton, Ontario | April 2025 – Aug 2025

Mobile Parts and Inventory

- Optimized **5+ daily delivery routes** across the Greater Toronto Area to ensure timely transport of critical parts.
- Managed and maintained **\$500K+ in inventory across 7 satellite yards**, performing regular audits to reduce stock discrepancies, improve part accuracy, and support consistent field operations.
- Coordinated with **10+ supervisors and technicians** to fulfill real-time inventory requests, **reducing equipment downtime by 15%** while improving workflow efficiency and communication across multiple field teams.

EDUCATION

Wilfrid Laurier University

Waterloo, Ontario | Sept 2023 – Present

Bachelor of Science in Computer Science