Lane Nelson

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Education

University of Michigan - Ann Arbor Ann Arbor, MI

Bachelor of Science in Computer Science *May 2029*

Relevant Coursework: Data Structures and Algorithms, Programming and Introductory Data Structures, Elementary Programming Concepts, Computer Science Pragmatics, Discrete Math

Experience

Technical Support Specialist (On Call) January 2025 – Present

Frisbie Law Offices, PC *White Cloud, MI*

- Planned the migration of network devices to support internal growth plans
- Diagnosed and resolved computer, network, and SIP telephony issues
- Configured automated backups to protect important client data
- Provided friendly and efficient computer and phone support

Projects

System Monitor | *Python, Flask, C++, React, Redis, PostgreSQL* August 2026 – Present

- Developed a full-stack system monitoring tool to collect, process, and display real-time system metrics across multiple hosts
- Built a C++ monitoring agent that collects and measures host names, CPU usage, memory usage, and free storage and submits to a Flask REST API
- Implemented a Redis and PostgreSQL backed event pipeline that collects critical events and logs, and streams alerts to a React interface, which allows for quick monitoring and visualization
- Developed a React dashboard for displaying host metrics, historical logs, and critical events with asynchronous API requests and dynamically rendered data tables

LPass Password Manager | *C++* June 2026 – July 2026

- Developed a command-line password manager with secure local vault creation, account management, and cryptographic password generation
- Utilized the Botan C++ library for fast, secure encryption for user account details
- Managed source control, feedback, and branching using GitHub

Self-Hosted Infrastructure | *KVM, Docker, Nginx, Jekyll, PostgreSQL* August 2025 – Present

- Designed and maintained a home lab environment running on Debian Linux
- Deployed a publicly facing web blog using Jekyll, Nginx, and Cloudflare
- Configured Fail2Ban to monitor and automatically block brute-force attempts on installed services
- Implemented automated backups, hardened SSH, and performed regular system updates to maintain stability and security

Technical Skills

Certifications: GSEC, GFACT
Languages: Python, C/C++, SQL (Postgres), HTML, CSS, JS, Bash
Technologies: React, Flask, Node.js, Git, Docker, VS Code, Visual Studio, VMWare, Jira, Windows Server, Linux, Nginx, Active Directory