Aidan Hopper

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SUMMARY OF QUALIFICATIONS

- Gained practical experience through a technical internship focused on automation and platform deployment.
- Demonstrated the ability to address technical challenges effectively, solve ambiguous problems, and think abstractly through academic, professional, and personal projects.

EDUCATION

B. S. Computer Science   *Expected May 2025*
Washington State University, Pullman, WA   GPA: 3.7

RELEVANT COURSEWORK

Object Oriented Principles, Advanced Data Structures, Systems Programming, Linear Algebra, Graph Theory, Calculus 3, Programming Language Design, Design and Analysis of Algorithms, and Cybersecurity.

SKILLS

Languages: C, Python, JavaScript/TypeScript, Haskell, SQL (Postgres), HTML/CSS, Bash.
Frameworks and Libraries: React, TailwindCSS, NodeJS.
Developer Tools: git, ssh, Linux/Unix, Docker, vim, curl, tmux.

EXPERIENCE

Application Engineering Intern   *Aug 2023 - Present*
Schweitzer Engineering Laboratories, Pullman, WA

- Developed an automated platform deployment system with Python, iPXE, Tiny Core Linux, and QEMU/KVM, for deploying custom images to bare metal for remote automated testing, providing flexible image creation, deployment, and automation capabilities.
- Wrote driver tests for remote machines in robotframework.
- Reduced time to test each block by 6x in the internal SSD testing solution.
- Packaged driver binaries to support the Proxmox kernel.

PROJECTS

Private Service Sharing Platform | *Node, Python, TypeScript, React, PostgreSQL*   *February 2025 - Present*

- Developing a platform to share services inside a private network to a private community over the internet.
- Utilizes the OpenZiti project as the network making backend for zero-trust connections to services in the mesh.
- Designed an API to manage communities which give users access to groups of services.

Chess Engine and Multiplayer Chess Platform | *React, Haskell, Go, Docker*   *October 2024 - December 2024*

- Developed a chess move-generating API in Haskell that processes an input board and piece movement and returns an output board.
- Built the website with a backend in Go and frontend in React to support multiplayer chess games.
- Designed an API to manage game setups by creating entries in a PostgreSQL relational database.
- Implemented real-time multiplayer functionality using WebSockets, enabling updates between players when moves are made.

Proxmox Homelab | *Virtualization, Docker*   *September 2024 - Present*

- Set up a two node Proxmox cluster at home to run virtual machines and Linux Containers for various applications and services.

CLUB EXPERIENCE

President of Palouse Robosub at WSU   *Sept 2024 - January 2025 (Member since Sept 2022)*
Oversaw the administrative tasks associated with onboarding 8 new members of the club.