

# Aidan Hopper

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## SUMMARY OF QUALIFICATIONS

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- Gained practical experience through a technical internship focused on automation and platform deployment.
- Demonstrated ability to address technical challenges effectively, solve ambiguous problems, and think abstractly through academic and professional projects.
- Proficient in distributed systems, multi-tiered architectures, algorithms, and relational databases.

## EDUCATION

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*B. S. Computer Science*

*Expected May 2025*

Washington State University, Pullman, WA

GPA: 3.7

## RELEVANT COURSEWORK

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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

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**Languages:** C/C++, Python, Go, JavaScript/TypeScript, Haskell, SQL (Postgres), HTML/CSS, C#.

**Frameworks and Libraries:** React, Robotframework, TailwindCSS, BeautifulSoup, Selenium WebDriver.

**Developer Tools:** Git, SSH, Linux/Unix, Docker, Vim, Curl.

## EXPERIENCE

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**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.
- Reducing time to test each block by 6x in the internal SSD testing solution.

## PROJECTS

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**Chess Engine and Multiplayer Chess Platform** | *React, Haskell, Go, Docker*

- Developed a chess move-generating microservice in Haskell that processes requests to return move results and possible next moves in UCI form.
- Built a website with a backend in Go and a frontend in React (TypeScript) to support multiplayer chess games.
- Designed a RESTful 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.
- Deployed on a VPS behind a Traefik reverse proxy for encryption with letsencrypt.

**Proxmox Homelab** | *Virtualization, Docker*

- Set up and manage a 2 node Proxmox cluster at home to run virtual machines and Linux Containers for various applications and services.
- Running multiple high performance VMs with GPU passthrough for a desktop as a service.

## CLUB EXPERIENCE

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**President of Palouse Robosub at WSU**

*Sept 2024 - May 2025 (Member since Sept 2022)*

Oversaw the design, development, and administrative tasks associated with creating “minisubs” for 8 new members of the club as onboarding before working on the larger submarine.