

Ryan Frederich

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Education

University of California, Santa Cruz

Sep 2019 - Dec 2023

- B.S. Technology and Information Management | Minor: Computer Science

Relevant Coursework

Sep 2019 - Dec 2023

CSE 120: Computer Architecture

CSE 140: Artificial Intelligence

CSE 150: Computer Networks

CSE 101: Data structures & Algorithms

CSE 182: Database Management

TIM 175: Business strategy & Information Systems

Employment

Software Development Intern

Callaway Golf

Jun 2023 - Sep 2023

- Developed and maintained **JSP** and **CSS** for a customer-facing eCommerce website.
- Developed reusable components, referencing **Figma** designs for creation and modification.
- Automated server startup and file compilation through custom **Bash** scripts, reducing start-up time by 30%.
- Managed tickets through **Jira** within an **Agile** development framework, while leveraging **CI/CD** pipelines.

Computer Science Instructor

iD Tech

Sep 2022 - May 2023

- Taught students computer science fundamentals using **Python** in a group setting of 10+ students and one-on-one.
 - Explained basic data structures, algorithms and **object-oriented** programming concepts.
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Skills

- **Languages:** Python, C/C++, Javascript, HTML & CSS, Java, SQL, Bash
 - **Libraries and Frameworks:** React, jQuery, Node.js
 - **Tools:** Git, Linux, Docker, Ansible, Jira, AWS(EC2, S3), REST APIs, Confluence, SAP Hybris, Figma
 - **Other:** Hypervisor / Virtualization, Computer networking (Mininet, Wireshark, Socket programming, Firewalls)
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Projects

Homelab

https://ryansurf.github.io/network_diagram.html

A sandbox environment that is used to learn new skills/software

- **Linux** and **Windows** based environments used to test new technologies across different operating systems.
- Implemented network-wide ad-blocking with a self-hosted **DNS** server in a **Docker** container, enhancing security.
- Set up infrastructure as code to manage and configure Virtual Machines.
- Self-hosted a secure **VPN** and integrated dynamic DNS to point to the local network's IP address.
- Configured **VLANs** on router to separate guest traffic from the rest of the network using several switches.
- Replaced home router with custom-built PC running **routing/firewall** software for enhanced network security.
- Examined network traffic, including **TCP/IP** and **HTTP** protocols, using a network protocol analyzer.

CLI Surf Report

https://github.com/ryansurf/cli_surf_report

- Developed a customizable surf forecasting tool, pulling data from an open-source weather **API**. Users can access real-time surf conditions and forecasts from the command line or through a web browser.
 - Runs on a Flask server, which responds to **HTTP curl requests**. Delivers custom data via command line arguments.
 - Hosted on a small server ran locally in my network. **Firewall rules** allow any device on any **VLAN** in the network to use the service.
 - Created a **Dockerfile** to containerize the application, helping smooth deployments across different environments.
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Interests

- Surfing, Camping/Backpacking, Dogs, Snowboarding, Homelabbing, Sudoku, Sustainability, Basketball