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

Employment

Web Development Intern
Callaway Golf
Jun 2023 - Sep 2023

- Developed and maintained **CSS** (LESS) and **JSP** code for an eCommerce website
- Managed and created reusable components via **SAP Backoffice** and a **CMS**
- Automated server startup and file compilation through custom **Bash** scripts, streamlining processes
- Tracked tickets using Atlassian **Jira** software in the **Agile** development process, and used **CI/CD** pipeline methodologies

Computer Science Instructor
iD Tech
Sep 2022 - May 2023

- Taught students computer science fundamentals using **Python**
- Explained basic data structures and **object-oriented** programming concepts

Skills

- **Languages:** Python, C/C++, Java, Javascript/HTML/CSS, SQL, Bash
- **Libraries and Frameworks:** React, jQuery, Flask, Node.js
- **Tools:** Git, Linux, Docker, Vim, Eclipse
- **Other:** Computer networking experience (Mininet, Wireshark, Socket programming, Firewalls)

Projects

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

- **Linux** based environment used to test new technologies.
- Implemented and maintained a network-wide ad-blocking solution utilizing Pi-Hole as the **DNS** server within a **Docker** container, increasing network security and efficiency.
- Conducted analysis of network traffic, including **TCP/IP** and **HTTP** protocols, using **Wireshark.**
- In progress: Configuring network-attached storage (**NAS**) infrastructure for centralized data storage and management, along with setting up a secure Virtual Private Network (**VPN**) using OpenVPN to enable remote access to the network from any location. Setting up an **Active Directory**.

Ocean Data Reporter
https://github.com/ryansurf/Surf_ScrapeV2

- Retrieves ocean data (wave height, tides, ocean and air temps) from buoys stationed along the coast, written in **Python** and utilizes NOAA's buoy **API**.
- Sends surf reports via email at a specified time, using **cron** to achieve **automation** on a Raspberry Pi.
- Stores data in a database using SQL (**MySQL)** for analysis of trends overtime.

Automated Irrigation System

- Built an enclosure with a microcontroller, solenoid valve and sensor to measure a garden's soil moisture levels.
- Wrote a program in **C** to detect if the soil moisture content fell below a given threshold, and triggered the solenoid valve to turn so the garden could be watered.