

Charles Fyfe, Ph.D.

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Summary

Ten years of experience with Python and distributed Linux systems. Emphasis on DevOps tools such as Jenkins, Docker, and REST APIs. Looking for opportunities in microservice development and Site Reliability Engineering.

Experience

Senior Systems/Software Engineer *Hewlett Packard Enterprise, 2019–Present*

- Led development of a **Python**-based monitoring framework for HPE's Cray supercomputers. Automated failure detection for **Ansible**, **Kubernetes**, and hardware configuration. Published real-time updates on Slack via webhook, saving dozens of hours of triage daily.
- Designed and implemented an ecosystem of **Flask/WSGI** microservices to process **JSON** data via **REST API**. Interfaced with a **time series database** and an **AngularJS** dashboard to extract and present actionable metrics.
- Provisioned distributed resources via **Google Cloud** and **Terraform** for automated testing.
- Wrote **CI/CD pipelines** to build, test, and deploy RPMs and **Docker**-based services on commit in support of 100+ engineers. Crawled thousands of **Git** repos via Jenkins and BitBucket APIs to validate pipeline updates against live use cases.

Visiting Assistant Professor of Physics *St. Olaf College, Fall 2020*

- Coached students in advanced problem solving techniques, including numerical modeling and data visualization in **Python**.
- Supervised a TA and two tutors as they provided students with additional support.

System Test Engineer *Cray Inc., 2016–2019*

- Created a multithreaded **Python** package for access and analysis of system logs. Processed terabytes of text to diagnose hardware failures on a \$70 million customer installation.
- Administered boots and upgrades on a 200-node **Linux** system in support of 20 engineers.
- Scraped, parsed, and analyzed boot data from thousands of nodes via **Python** and **shell scripts**. Identified performance regressions and correlated them with firmware updates.

Volunteer Powerlifting Coach *Special Olympics Minnesota, 2018–2020*

- Adapted coaching strategies to each athlete's physical abilities and communication skills.

Research/Teaching Assistant *University of Minnesota, 2009–2016*

- Automated parallel simulations and analyzed hundreds of gigabytes of data using **Python**.
- Instructed hundreds of college students on the fundamentals of data analysis.

Education

Ph.D. (Plasma Physics)

University of Minnesota, 2016

B.A. (Mathematics & Physics)

St. Olaf College, 2009