Lihu Zhong

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Code: https://github.com/lihu-zhong

SKILLS

Programming Languages: Python, Rust, Bash, Kermit
Operating systems: RHEL/Rocky/Fedora, Ubuntu/Debian/Raspberry Pi OS, Embedded Linux, Cisco IOS
Software: git, Ansible, Puppet, systemd, Wireshark/tcpdump, Terraform, Docker/Podman, Slurm, LaTeX
Networking: ARP, DHCP, DNS, ICMP, IP, NTP, SSH, TCP, TFTP, UDP, VLAN, Wi-Fi
SaaS tools: GCP, AWS, Jenkins, Artifactory, Github

EXPERIENCE

The Broad Institute of MIT and Harvard   *Sep 2023 – Jul 2025*
Principal Systems Engineer
- Administrated GCP services with Terraform, building and promoting self-serve processes that scaled with the size of the organization while adhering to federal security regulations.
- Administrated the on-prem HPC cluster using Puppet, Slurm, and GridEngine.
- Worked with scientists to migrate their ML workflows from bespoke configurations on bare-metal hardware to container-based cloud infrastructure.
- Deployed Backstage as an internal development platform, centralizing fragmented documentation and automating the "Golden Path" on standard processes.
- Built and evangelized IT-wide coding standards (ruff, pyright, prettier, etc.), along with CI tooling using GitHub actions and shared workflows.

Portal Instruments   *Apr 2022 – Dec 2022*
Senior DevOps Engineer
- Converted the existing manually-configured VM-based CI to a containerized system. Documented and automated the process using Terraform.
- Spearheaded company-wide security compliance efforts. Targeted specific immediate business requirements, using ISO 27001 and SOC 2 as reference.

Starry Inc.   *Feb 2017 – Mar 2022*
Principal Systems Software Engineer
- Wrote firmware in Rust for embedded Linux on Starry radios allowing for automatic self-configuration in the field.
- Shipped 8 distinct products across a 5 year tenure at Starry.

Manager, Systems Software Tooling
- Owned the firmware build infrastructure, a CI/CD pipeline using Jenkins and Kubernetes. Over 6 months, cut build time by 50%, from 4 hours down to 2.
- Maintained the nightly test automation infrastructure, scaling it with the ballooning number of new products, tests, and test harnesses.
- Supported automated provisioning, updates, security patches, and technical support for engineering testbeds and manufacturing systems.

Manager, Internet Firmware Validation
- Oversaw the hiring process, growing the team from 4 to 9 engineers over 10 months.
- Expanded test coverage while delivering on tight deadlines and communicating progress to C-suite.
- Built and shipped a test storage and reporting solution using MariaDB.

Senior Systems Integration and Validation Engineer
- Designed and wrote full-system test software for manufacturing, including controls for a variety of hardware components over RS232, USB, and ethernet.
- Mentored 8 Northeastern co-ops over 3 years, each of which took ownership of long-term, critical projects. Two went on to take full-time positions with Starry.
- Built and expanded an internal test network and testbed automation infrastructure to the manufacturing line overseas. Maintained 24/7 uptime over 7 time zones.
- Set up automation from scratch for administrating and documenting state on test harnesses using Ansible.
- Implemented team code standards and automated their enforcement in CI with Jenkins.
- Built, maintained, and automated physical test harnesses for Starry radio firmware.

EDUCATION

Swarthmore College
B.A. in Computer Science and Biology