Ryan **Drew**

Learn · Build · Contribute

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Education

University of Colorado at Boulder

Boulder, Colorado

B.S. in Computer Science (3.7 GPA) *Graduated May 2022*

- B.S. in Computer Science with a certificate in Engineering Leadership.
- Maintained great academic standing through challenges presented by COVID-19 Pandemic.
- Member of Engineering Honors Program (EHP), Engineering Leadership Program (ELP).
- Mentored through the Boulder-CU Leadership Program (BCLP) and coached through the CU Center for Leadership's 2022 Pilot Coaching Program.
- Achieved proficiency in wide range of fundamental technical and soft skills: Linux administration, artificial intelligence (AI), machine learning (ML), data analysis, statistics, linear algebra, operating system design, programming language fundamentals, object-orientated programming (OOP), ethical hacking, project leadership, teamwork, written/oral communication and time management.
- Environment fosters self-starter attitude and high capacity for independent study.

Skills

(Programming) Languages	Go, Bash, Python, Nix, C/C++
Container Platforms	Kubernetes, GKE, Docker, Podman
Automation Tools	Github Actions, CircleCI, Kustomize, Helm, Ansible, The Foreman, iPXE, Kickstart
Performance Analysis Tools	bpftrace, perf, FlameGraph
Data Analysis Tools	Jupyter, NumPy, Pandas, Elastic Stack

Experience

Isovalent

Remote, Colorado

Performance and Scale Engineer *Spring 2022 - Present*

- Learning performance, scale and management skills on-the-fly as quickly as possible through independent studies and internal assistance, to fill the gap left by departure of senior colleague who made up the rest of the performance and scale team.
- Inherited performance and scale related responsibilities such as automation, tech-debt, customer issues, and competitor evaluations, requiring consistent technical collaboration and communication across other teams.
- Leverage GitHub Projects, Notion and Google Drive to manage lifecycle of performance and scale responsibilities, promoting clear communication and knowledge-sharing through documentation of progress and results.
- Developed a CircleCI pipeline to dynamically render and execute an eight stage performance testing workflow, from cluster creation to result storage, templated through Jinja2 and customized through a Jsonnet testing matrix.
- Proposed, planned and implemented a refactor of performance automation framework, increasing its capabilities and speed of development, while reducing SLOC from 25,000 lines to 2,500 lines.
- Built a flexible Go-based application capable of running binaries from container images within Kubernetes node namespaces through the use of Kubernetes' APIs, easing time investment required for debugging and CPU profiling.

Red Hat

Remote, Colorado

OpenShift Performance and Scale Software Development Intern *Summer 2021 - Spring 2022*

- Took on role as one of the core maintainers of the department's main benchmarking tool, benchmark-wrapper, within a month of start date, involving brainstorming of long-term goals, reviewing and resolving issues, pull requests and bugs, and collaborating with other teams within the department.
- Architected and merged an object-orientated redesign of benchmark-wrapper's structure to help lower the time required to debug issues and add new features.
- Implemented and assisted in designing an automated six-stage testing pipeline for benchmark-wrapper within Github Actions that covered automating: code quality checks, requirements version pinning, unit tests across four Python versions, building and pushing documentation, simultaneously building and pushing 21 unique Dockerfiles across two different architectures with manifest and versioning support, and functional testing based on podman-play and tox.
- Gave technical presentations for a variety of team and Red Hat events, such as technical demos, competitions, conferences and regional meetups, ranging in presentation time of five minutes to 90 minutes.

Earth Treks Climbing and Fitness

Golden, Colorado

Part-Time Instructor *Fall 2019 - Spring 2020*

- Lead weekly youth programming classes and events that center around building self-confidence, proper warm-up and climbing technique, verbal communication skills and safety while climbing within the gym.
- Responsible for confronting, de-escalating and educating members violating safety policies, whether it be unruly children or adults using dangerous belay methods.
- Trusted with performing lead belay checks, top rope belay checks and routine floor walks to ensure high safety standards and engage with members to build a welcoming community environment.

Zayo
Boulder, Colorado

Cyber Security Analyst I — *Summer 2019*

- Performed cost to functionality analysis in migrating corporate SIEM solution to open source architecture, which involved researching growth requirements, OPEX and CAPEX costs and use cases and then communicating findings to CSO.
- Combed through ISO 27001 information security policy documents before their release to employees, looking for typos and asking questions targeted towards learning the ins and outs of the company's security posture.
- Took charge of designing, deploying, administering, and monitoring proof-of-concept Elastic Stack for hands-on evaluation of SIEM capabilities with company firewall data, ease-of-use and resource requirements.
- Contributed to the five-year corporate security roadmap by providing ideas sourced from independent research and by participating in think-tank discussion.

CU Boulder's Integrated Teaching & Learning Program and Laboratory (ITLL)
Boulder, Colorado

IT Student Assistant I — *Fall 2018 - Spring 2019*

- Part of a team responsible for supporting newly required student hardware by adding the necessary drivers into Microsoft Deployment Toolkit and Windows Deployment Services.
- Led a student team in the overhaul of cable management standards in four student work areas to deter theft of assets, increase student productivity and create a clean public image for the IT team.
- Communicated with students and conferred with peers in order to troubleshoot and fix issues impacting use of student software.
- Assisted in the on-boarding process for new student staff, thereby allowing full-time staff to focus on more pressing projects.

Lockheed Martin
Littleton, Colorado

IT Intern for the GOES-16 Weather Satellite Team — *Spring 2018*

- Gained hands on experience with OpenScap OVAL and Synk.io to develop a baseline knoweldge of approaches to risk assessment.
- Researched the security regulation ecosystem, gaining a fundamental understanding of industry practices and NIST 800-53 standards.
- Collaboratively developed a Python script to automate ticket creation from system monitoring alerts, in an effort to streamline the debugging process during the failure of internal servers and services.
- Prepared a 15-minute presentation that summarized internship experience and presented to all other interns and employee representatives from their teams and management.

Level 3 Communications (Now CenturyLink)
Broomfield, Colorado

Threat Research Group Summer Intern — *Summer 2016 and 2017*

- Independently proposed and developed a Python application to pull Indicators of Compromise (IOCs) from Honey Pot Bots tweeting their compromises to Twitter and export them to team's internal threat analysis infrastructure in real time.
- Containerized the above Python applications into a Docker image and received approval from management to deploy it into team's production Docker Swarm environment.
- Lead implementation and development of application comprised of Redis, Saltstack and Python capable of managing hundreds of SSH SOCKS5 proxies to cloud Virtual Private Servers (VPSs), for use in protecting company assets by anonymizing large-scale Internet threat research.
- Set the standard for Python code documentation within the team through exemplification of a personal high standard of clarity, consistency and coverage, and through implementation of automatically generated documentation sites built from source code.

Extracurricular Activity

On-Prem Private Cloud
My Office Closet

Home Development Lab — *Fall 2018 - Present*

- Built a Go-based Kubernetes controller to ensure architecture-aware placement of pods on nodes to prevent single-architecture container images being scheduled onto incompatible nodes in a multi-arch cluster environment.
- Modified iPXE's piPXE project to add support for EDK2 UEFI firmware and iPXE for the Raspberry Pi 4, in order to perform a full network install of CoreOS through iPXE chainloading.
- Designed and developed a minimized version of The Forman using Flake8 in Python for automating provisioning of CoreOS and other Linux distros, inspired by difficulty of containerizing The Forman and limited functionality provided by Poseidon's Matchbox project.
- Operated a custom three-node OpenStack cluster built on Docker containers through the use of the Kolla-Ansible project.

CU Boulder Complex Leadership Challenges (COEN 3050) Global Intensive
Uganda and Rwanda

Study Abroad — *May 2019*

- Met with organizations Thread of Life, Reach a Hand, Design Hub and Gahaya Links to learn their history, goals and methods for social impact.
- Toured the Kigali Genocide Memorial and Nyamata Church Memorial in Rwanda to listen to and understand the stories of those impacted by the genocide against the Tutsi.
- Stayed at Global Living Institute's (GLI) Entusi resort at Lake Bunyonyi, participating in local events such as swimming lessons and dance lessons, as well as listening to and learning from the people local to the area such as residents and the local traditional healer.
- Visited Makerere University and Kabale University to gain exposure to engineering student life within a different cultural setting.

CU Boulder Climbing Team
Colorado

Team Member — *Fall 2018 - Fall 2019*

- Professionally competed in Collegiate USA Climbing (USAC) competitions throughout Colorado, participating in 10+ hours of team and individual practice per week.
- Embodied the idea of 'ambition without competition', supporting team culture of rigorous self-improvement while remaining humble and sportsman-like towards others.
- Represented the CU Boulder Climbing Team both on and off the wall, communicating core values of acceptance, growth and fun to potential new members and the climbing community.
- Researched and practiced proper training techniques to help prevent and recover from personal injuries and streamline physical progress.