

SUMMARY

Ambitious and motivated Systems Engineer with solid leadership, teamwork, and creativity. Eager to learn cutting-edge technologies and passionate about HPC, distributed systems, big data, high-speed networking, machine learning and AI.

EXPERIENCE

- **Hewlett Packard Enterprise** Fort Collins, CO
HPC Storage - Systems Software Engineer II *June 2022 – Present*
 - Created an automated, user-friendly, and scalable software upgrade procedure for DAOS storage cluster
 - Designed and implemented cluster bootstrapping process for DAOS storage product
 - Adapted HPE HPCM as foundation for new DAOS storage product
 - Triaged Kubernetes management issues in several customers' legacy storage products
 - Contributed bugfixes and LNet kernel module tuning improvements to community Lustre filesystem project
 - Benchmarked ClusterStor Lustre filesystem against GPUDirect Storage clients and POSIX clients
 - Created Jenkins pipeline that builds DKMS-enabled Lustre clients for a variety of distros and kernels
 - Investigated DAOS filesystem and enabled Infiniband device passthrough for Kubernetes-provisioned clusters
 - Streamlined add-on data mover node discovery and software mapping process
- **Cray, Inc.** Longmont, CO
HPC Storage - Software Development Intern *May 2020 – May 2022*
 - Automated Jenkins builds, Go unit testing, and Slack notifications for team's repositories
 - Overhauled Go gRPC communication strategy between data path microservices
 - Created filesystem controller to create and manage Lustre/ZFS filesystems on host node
 - Added resource persistence via both filesystem and Kubernetes' etcd keystore
 - Updated drive management controller to provide NVMe and SCSI drive discovery
- **Colorado State University - Pallickara Lab** Fort Collins, CO
Graduate Research Assistant *Jan 2021 - May 2022*
 - Wrote/published one paper to BDCAT 2021 as second author, another to 2022 IEEE Big Data as first author
 - Automated cluster management with two Kubernetes clusters, Docker containerization, and Bash/Python scripts
 - Established procedures for ingesting, documenting, and sharding datasets into MongoDB cluster
 - Advocated for solid software engineering practices like test-driven development, clean code, and well-defined version control processes
- **Colorado State University, Intro to Operating Systems** Fort Collins, CO
Graduate Teaching Assistant *Aug 2020 – Dec 2020*
 - Taught recitations for over 70 students, publishing help videos and documentation
 - Designed containerization-focused term project for the class with Kubernetes and Docker
- **Colorado State University, Pallickara Lab** Fort Collins, CO
Undergraduate Research Assistant *Jan 2020 – May 2020*
 - Helped develop LSTM recurrent neural networks for point-cloud datasets generated from agricultural LIDAR equipment
- **Colorado State University, Intro to Software Engineering** Fort Collins, CO
Undergraduate Teaching Assistant, DevOps *Jan 2019 – Dec 2019*
 - Practiced Agile and Scrum master role, assisting teams with Sprint planning; automated DevOps
 - Provided reference React/JSX web applet with RESTful API for students to test against
 - Taught version control etiquette and clean code practices
- **Data Ductus, Inc.** Longmont, CO
Software Development Intern *May 2019 – Aug 2019*

- Implemented administrative RBAC for Verizon APIs
- Reduced end-to-end testing time from over 20 minutes to 6 minutes
- **Colorado State University, Data Structures and Algorithms** Fort Collins, CO
Lead Undergraduate Teaching Assistant *Aug 2017 – Dec 2018*
 - Facilitated learning inheritance, polymorphism, data structures, object-oriented design, recursion, and various algorithm implementations

EDUCATION

- **Colorado State University** Fort Collins, CO
M.S. in Computer Science; GPA: 4.000 *Aug 2020 – May 2022*
- **Colorado State University** Fort Collins, CO
B.S. in Computer Science, Math Minor; GPA: 3.984 *Aug 2016 – May 2020*

PROJECTS

- **Omniscient** Distributed resource monitoring for memory pressure, CPU usage, storage I/O, Ethernet and InfiniBand throughput. [github.com/inf0rmatiker/omniscient]
- **Validation Service** Validates spatiotemporal models on large datasets in a distributed fashion and visualizes metrics as a geospatial heatmap. [github.com/Project-Sustain/validation-service]
- **Research Papers**
 - ACM BDCAT 2021 — *Distributed Orchestration of Regression Models Over Administrative Boundaries*
 - IEEE ICCBE 2022 — *Resource Efficient Profiling of Spatial Variability in Performance of Regression Models*

REFERENCES

Brent Petit	HPE	Engineering Manager	brent.petit@hpe.com
Timothy Morneau	HPE	Senior Systems Engineer	morneaut@gmail.com
Aaron Laffin	HPE	Senior Systems Engineer	aaron.laffin@gmail.com
Dr. Shrideep Pallickara	CSU	Computer Science Professor	shrideep@colostate.edu