Parth Yadav

Kubernetes Platform Software Engineer | Controllers, CSI/CNI & Distributed Systems in Go
Certified Kubernetes Administrator (CKA) | 4+ years in Kubernetes, Controllers, CSI, Webhooks, CNI, Distributed Infrastructure
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Summary

Cloud-native software engineer with 4+ years of experience in building distributed infrastructure platforms around Kubernetes. Proven expertise in designing scalable, reliable systems. Contributions include custom Kubernetes controllers, CSI drivers, BYOH integrations, hosted control planes, and GPU workloads orchestration in Kubernetes. Known for a hands-on, systems-level approach and a focus on writing clean, reliable, and reusable code. Comfortable working with and integrating open-source projects, but with a minimalist mindset.

Experience

Coredge.io *Sep 2022 – Present*

Software Development Engineer-III *Oct 2025 – Present*

- Architected and delivered a hosted control plane solution using Kamaji, significantly reducing infrastructure costs for customers with GPU-constrained clusters by eliminating the need for dedicated master nodes.
- Implemented node autoscaling for the Kubernetes-as-a-Service (k8saas) platform using Karpenter, enabling dynamic, cost-efficient provisioning of right-sized nodes in response to workload demand.
- Acted as a key contributor and team unblocker across engineering pods; mentored junior developers, shared deep platform insights, and led root-cause investigations for complex system-level issues.

Software Development Engineer-II *Sep 2022 – Oct 2025*

- Designed and implemented a Kubernetes CSI driver to integrate the company's storage service volumes into tenant clusters, enabling seamless storage provisioning for Kubernetes Persistent Volumes.
- Built and maintained core infrastructure controllers (in Golang) integrating Cluster API (CAPI), Kamaji, and BYOH to support end-to-end cluster lifecycle management across VMs, bare metal, and edge environments.
- Enabled HPA for Triton Inference Server workloads by integrating Prometheus Adapter, allowing automatic scaling of ML model-serving workloads based on custom inference metrics. Added a Grafana dashboard to visualise aggregated GPU usage and related metrics.
- Implemented controllers in Golang that reconcile distributed infrastructure resources towards the desired state, using MongoDB and MongoDB change streams for state management and notification events respectively.
- Contributed to the internal development of gRPC APIs and reverse-tunnelling infrastructure used for distributed control plane components (connecting remote clusters behind private networks).
- Delivered a Kubernetes-native provisioning system for WebRTC-based, GPU-powered Desktop-as-a-Service (DaaS) environments.
- Designed and implemented a Prometheus exporter to capture SLA and performance metrics for internal container registry services.

Research Associate, University of Delhi *Jun 2021 – Aug 2022*

- Automated cluster bootstrapping and operation for OpenStack-Helm and Kubernetes clusters.
- Worked on networking and performance-critical Kubernetes features including Multus, SR-IOV CNI, hugepages, CPU policies, and NUMA-aware scheduling.

LFX Intern, LFN Mentorship Program 2020 *Jun 2020 – Aug 2020*

- Developed a Python-based Cloud Software Delivery Validation (SDV) tool for ensuring health and configuration accuracy of cloud components (OpenStack, Ceph, Prometheus, Nova, etc.) deployed via the Airship Installer.

Intern – Container Metrics Collection & Visualization in VSperf, OPNFV *Nov 2019 – Dec 2019*

- Implemented collection and visualization of container metrics using cAdvisor, InfluxDB, and Grafana in the VSPerf project to support the team's CNF benchmarking work.
- Developed an understanding of L2/L3 dataplane benchmarking topologies for VNF and VM workloads.

Technical Skills

Languages: Golang, Python, C++
Kubernetes Internals: KubeBuilder, CAPI, Kamaji, Crossplane, Karpenter, CSI, CNI (Multus, SR-IOV), CRDs, Operators
DevOps / Infra: Docker, Helm, Kubernetes, Kustomize, Ansible, Prometheus, Grafana, MongoDB, MinIO, LXD, Redis, NGINX

Protocols & APIs: gRPC, gRPC-gateway, REST
Other Tools: Git, Keycloak, Linux bash scripting, OpenStack-Helm

Education

B.Sc. Computer Science, University of Delhi *2017 – 2020*

Certifications

- **Certified Kubernetes Administrator (CKA)** — score: 98%, valid 2024–2027 (verify)

Achievements

- Selected for the LFN CIRV internship and delivered an SDV tool for open source (link).
- Received a recommendation letter from the OPNFV project (link).
- Awarded the Anuket Contributor Badge for community participation (link).