

# Sachin Kumar Singh

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[GitHub](#) | [LinkedIn](#) | [Website](#)

## EXPERIENCE

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### • DigitalOcean

Software Engineer 2

<https://www.digitalocean.com/>

Bengaluru, India

October 2023 - present

- Contributing to the internal platform team to enhance developer productivity by developing and maintaining **docc**, a Kubernetes-based internal platform for simplified application deployment and maintenance.
- Improved deployment reliability by implementing **canary deployments** and **A/B testing** using **Kubernetes Gateway API**, **Envoy proxy**, and **Istio** to manage traffic flow and enable quick rollbacks, reducing production incidents by 65% and accelerating issue detection by 4x. [*Talk at FOSDEM'25 for the same*]
- Improved the reliability of the internal endpoint discovery service (EDS) backed by Cassandra, enhancing service availability and fault tolerance.

### • Canonical (Creators of Ubuntu)

Software Engineer

<https://canonical.com/>

Remote

September 2022 - October 2023

- Developed and maintained **Cluster API control-plane** and **bootstrap providers** for MicroK8s, enabling scalable cluster automation across cloud and edge environments.
- Implemented **in-place upgrades**, reducing cluster downtime by 80% during version transitions.
- Designed and implemented **dual-stack (IPv4 + IPv6)** support, future-proofing MicroK8s for modern network environments.
- Built and maintained the **MicroK8s charm** using Juju, streamlining deployment and lifecycle management, while integrating **Ceph storage** improving I/O performance.

### • VMware by Broadcom

Software Engineer Intern

<https://www.vmware.com/>

Bengaluru, India

February 2022 - August 2022

- Contributed to the Tanzu Edge team on the development of Cluster API Provider **Bring Your Own Host**, enabling lifecycle management of Kubernetes clusters on bare-metal.
- Designed and implemented a secure host provisioning and registration workflow using **bootstrap token authentication**, reducing manual setup errors and improving onboarding efficiency.

### • Linux Foundation (LFX) Mentorship

Intern at CNCF (Cloud Native Computing Foundation)

[Mentorship Page](#)

Remote

Feb 2021 - May 2021

- Contributed to the **SPIFFE/SPIRE** project by designing and implementing a robust health check subsystem to monitor system health and improve operational reliability within SPIRE.
- Implemented readiness and liveness checks for each SPIRE subsystem, aggregating results for a global health check, improving system reliability and uptime monitoring.

## EDUCATION

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### • Guru Gobind Singh Indraprastha University

Bachelor of Technology (Information Technology)

New Delhi, India

Aug. 2018 - June. 2022

## SELECTED TALKS

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### • FOSDEM'25

Topic: [Enhancing delivery using Kubernetes Gateway API and Istio](#)

### • FOSDEM'23

Topic: [Reconciliation Pattern, Control Theory, and Cluster API: The Holy Trinity](#)

## PROGRAMMING SKILLS

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• **Languages:** Golang, Rust, C/C++, Python, Bash

• **Tools/Framework:** Kubernetes, etcd, Prometheus, eBPF, GNU/Linux, Docker, OpenStack, ClickHouse, Terraform, Ansible, AWS, DigitalOcean