

Sarthak Negi

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SUMMARY

I am a motivated computer science student skilled in software development, backend systems, cloud optimization, distributed systems, containerization, Kubernetes, monitoring, CI/CD pipelines, and test automation. As an active open-source contributor, I collaborate with global communities to drive innovation and build impactful, scalable solutions.

EDUCATION

Jaypee Institute of Information Technology
B.tech in Computer Science and Engineering

Noida, India
2022 - 2026

PROFESSIONAL EXPERIENCE

Student developer

Keploy

May 2024 - July 2024
remote

- Developed a TypeScript sample application with comprehensive Jest unit tests, achieving 95% test coverage
- Implemented automated CI/CD benchmarking workflows using GitHub Actions, reducing deployment testing time by 25%
- Contributed to Developer Experience improvements, such as writing blogs, enhancing features and resolving issues in github, driving 30% increase in user engagement
- Keploy has 35.7k + downloads and 5.1k + stars on github.

Student Developer

KDE

Jan 2024 - April 2024
remote

- Developed CI-test for KEcoLab, enhancing automation and reliability and improved test coverage by 80%.
- KecoLab tool aims to provide a streamlined process for measuring software energy consumption remotely using a CI/CD pipeline.
- Developers can make informed decisions to improve code efficiency and obtain software eco-certification with the Blue Angel.
- Project link - (<https://eco.kde.org/blog>)

Linux Foundation Mentorship Intern

Cloud Native Computing Foundation - KubeEdge

Sept 2023 - Dec 2023
remote

- Deploy KubeEdge v1.14.2 on Kubernetes v1.24.0 cluster
- Improved the test coverage of the project by writing unit tests, E2E tests and integration tests
- Collaborate with maintainers and create interactive learning experiences using Killercoda for developers to deploy KubeEdge.
- Project link - (<https://mentorship.lfx.linuxfoundation>)

PROJECTS

DevSecops Deploy Netflix Clone

GitHub

- Architected and implemented an end-to-end **CI/CD pipeline** for Netflix Clone using Jenkins, reducing deployment time by 35% and achieving zero-downtime deployments
- Integrated automated security scanning with **SonarQube** and **Trivy**, identifying and resolving 100+ potential vulnerabilities, achieving a 98% security compliance score, and reducing security incidents by 80%
- Setup **Prometheus** to collect metrics and **Grafana** for visualisation
- Designed and deployed a scalable **Kubernetes** cluster with automated node scaling
- Implemented GitOps practices using **ArgoCD**, achieving 100% deployment consistency and reducing rollback time from hours to minutes

SignSpeak

GitHub

- Developed an innovative **Machine Learning** web application that converts audio and text to sign language animation, addressing communication accessibility for deaf and hard of hearing individuals
- Implemented an interactive sign language translation system using OpenAI's Whisper API, Google's MediaPipe Hand Landmarker, Flask, three.js, and **Python**
- Containerized the application using **Docker** and successfully deployed on **Kubernetes (k3s)** and **AWS ECS**, demonstrating expertise in cloud infrastructure and containerization technologies
- Engineered a multi-input system capable of processing both audio files and text, utilizing advanced machine learning techniques to map words to corresponding sign language movements
- Implemented a robust **CI/CD pipeline** using **GitHub Actions**, ensuring efficient and automated deployment of the application

Real Time Collaborative Text Editor

GitHub

- Developed a real-time collaborative document editor using **Django**, **React** and **WebSocket**, achieving < 35 ms latency for synchronous editing between multiple users with cursor tracking.
- Engineered conflict-free document synchronisation using **Yjs CRDTs** and **Redis pub/sub system**, reducing sync conflicts by 98% and ensuring data consistency across concurrent edits.
- Optimised WebSocket communication via **Django Channels** and **Redis**, decreased message broadcast latency by 35% and implemented real-time user presence features.

ACHIEVEMENTS AND LEADERSHIP EXPERIENCE

Open Source Summit Japan 2024 Speaker Link

- Deliver a presentation on the core components and architecture of KubeEdge, highlighting its role in extending Kubernetes to efficiently manage edge computing workloads. Begin with a concise introduction to edge computing, emphasizing its increasing significance in IoT and distributed systems.

Core Team Member Of OSDC (open source developer community) Link

- Mentored 30 students in an open-source development workshop, guiding them to successfully make their first contributions to open-source projects within 30 days.
- Organized and led bi-weekly meetups on trending industry topics, fostering knowledge-sharing and skill development among participants.
- Spearheaded two hackathons (OSDC-Hack and CodeJam), facilitating collaborative problem-solving and innovation among participants.

Technical Skills

- go | java | C++ | python | js | html | css
- node.js | express.js | react.js | php | SQL | mongoDB | langchain | scikit-learn
- Linux | Windows | AWS
- Git | docker | Kubernetes | Jenkins | prometheus | grafana | Ansible | Terraform