Pradyuman

Backend & Systems Engineer — Rust, C++, Golang — Systems Programming, Storage, Networking

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Summary

Backend and systems engineer with 4+ years of experience building resilient infrastructure and scalable backend platforms. Passionate about low-level systems, with recent work on custom file protocols and high-performance tooling in Rust and C++. Now transitioning into kernel, storage, and networking engineering with a focus on performance, reliability, and systems internals.

TECHNICAL SKILLS

Programming Languages: Rust, C++, Golang, Python, Bash

Systems & Internals: Thread Scheduling, Virtual Memory, Syscalls, File Systems (NFS, ext4), Socket Programming, IPC

Infrastructure Tools: Linux, Docker, Kubernetes, Terraform, Helm, GitHub Actions, Git

Cloud Platforms: AWS (EC2, S3, EKS), GCP (Compute, Storage, SQL, GKE), Azure (AKS, Blob)

Observability & Data Systems: OpenTelemetry, Fluent Bit, ClickHouse, Redpanda, Cassandra

Other Skills: CI / CD, distributed systems, API design, DSA

EXPERIENCE

CtrlB *April 2024 – Present*

Senior Software Engineer → Engineering Lead *Bengaluru, Karnataka*

- Led and mentored a team of 3 interns, driving architectural decisions and code quality improvements that accelerated feature delivery.
- Deployed a self-hosted Kubernetes cluster from scratch, reducing onboarding time from 4–5 hours to under 15 minutes via automated provisioning.
- Streamlined OpenTelemetry agent orchestration by designing a control plane that automated and unified configuration across all deployments.
- Built a custom observability pipeline to ingest, transform, and store logs, metrics, and traces using OpenTelemetry and a SQL-backed store.

Middleware *Sept 2023 – Feb 2024*

Senior Software Engineer *Ahmedabad, Gujarat*

- Designed modular deployment workflows using Helm and raw Kubernetes manifests to streamline agent provisioning across diverse clusters.
- Integrated telemetry pipelines with ClickHouse, Redpanda, and Cassandra for low-latency observability ingestion.
- Improved release reliability by automating workflows using GitHub Actions, reducing manual overhead and cycle time.

Gap Inc. *June 2021 – Sept 2023*

Software Engineer *Hyderabad, Telangana*

- Led adoption of OpenTelemetry in a large-scale AKS deployment, creating a vendor-agnostic observability stack for 100+ microservices.
- Migrated infrastructure from RHEL to OEL, saving $50K annually while maintaining high availability and performance benchmarks.
- Developed Chef cookbooks to bootstrap VM deployments and harden agent configuration, improving baseline security and standardization.

PROJECTS

Mini-NFS Protocol Implementation | ***Rust, C++*** | *Systems Project*

- Built a custom NFS-like protocol over TCP to support `LIST`, `READ`, and `WRITE` operations for remote file management.
- Engineered a file server and client system with line-based command parsing and streaming byte-level I/O.
- Focused on safe concurrency, protocol correctness, and low-level system abstractions using Rust and C++.

Rust-based CLI Tools Suite | ***Rust*** | *Systems Tools Project*

- Implemented high-performance versions of UNIX utilities (‘cat‘, ‘find‘, ‘grep‘, ‘ls‘, etc.) from scratch with a focus on correctness and speed.
- Benchmarked against coreutils and emphasized memory safety, portability, and idiomatic Rust practices.

EDUCATION

National Institute of Technology(NIT), Hamirpur *2017 - 2021*

Bachelor of Technology in Computer Science *Hamirpur, HP*