

Santhanu Vinod

Software Engineer | Distributed Systems Engineer

Kerala, India | vinodsanthanu@gmail.com | LinkedIn | GitHub | GitLab | Portfolio

Professional Summary

Distributed systems engineer with production experience building event-driven, high-availability systems using Kafka, saga orchestration, and event stores in .NET. Demonstrated Go proficiency through maintained open-source tooling and merged contributions to GitLab Gitaly, one of the largest Go codebases. Currently transitioning to Go-focused distributed systems roles.

Technical Skills

Languages: Go, C#, Python, Rust (basics), TypeScript, SQL, Bash

Distributed Systems: Kafka, gRPC, Saga Transactions, Keycloak, Event Store, MongoDB Replica Sets

Cloud & DevOps: Azure, Docker, GitLab CI/CD, VNet, Private Endpoints, PostgreSQL, Prometheus, Kubernetes

Open Source Contributions

GitLab Gitaly | Contributor (Go, gRPC, Git Internals, Prometheus)

Core distributed Git storage system serving gitlab.com

- Fixed critical observability gap in SSH-based Git operations (clone, fetch, archive), adding error handling that prevented silent failures
- Implemented reflection-based config-to-TOML generator establishing Go structs as single source of truth, eliminating manual documentation drift and auto-generating example configs with minimal/complete extraction modes
- Delivered Git refs verification in housekeeping with Prometheus metrics for corruption monitoring

GitLab Runner | Contributor & Plugin Maintainer (Go, VMware vSphere)

CI/CD execution infrastructure

- Developed and actively maintain vSphere fleeting plugin enabling ephemeral VM provisioning for CI pipelines
- Integrated cloud-init for automated SSH key injection, improving security and deployment speed
- Plugin officially listed in GitLab documentation as community-supported infrastructure solution

Srotas | Creator & Maintainer (Go, Cobra)

- Built CLI tool for replaying complex HTTP workflows from YAML configurations, enabling distributed systems testing and API integration validation
- Implemented conditional execution, looping constructs, and response validation for scenario-based testing
- Designed variable interpolation system extracting data from API responses and environment configs for dynamic request generation

Professional Experience

Software Engineer | QBurst

Sep 2023 – Present | Kerala, India

- Built an event store in MongoDB that captures full snapshots and computes deltas between them to enable analytics and system state tracking
- Configured MongoDB replica sets for high availability and designed aggregation pipelines for delta calculations
- Built distributed mail service using Kafka, PostgreSQL (column-level encryption), and MailKit supporting multiple backends (SendGrid, SES)
- Architected WorkflowCore-based saga orchestration enabling complex distributed workflows with custom retry logic and real-time recovery dashboards via SignalR
- Secured Azure SaaS deployments via VNet segmentation and private endpoints while optimizing costs
- Developed multi-stage GitLab CI/CD pipelines reducing manual release overhead and ensuring environment consistency
- Integrated Keycloak for multi-tenant access management enabling secure gRPC inter-service communication

Technologies: Kafka, PostgreSQL, MongoDB, WorkflowCore, Keycloak, Azure, Docker, GitLab CI/CD, Replica Set

Education

B.Tech in Computer Science Engineering

Saintgits College Of Engineering | 2019–2023