Kshitiz Agrawal

Go backend engineer, 3 years at a fintech: built workflow engines running 10M+ runs/day, own the API gateway behind every lending journey at 99.95% availability, and cut vendor and infra costs by INR 2.6 Cr/year

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Experience

FinBox Backend Engineer *Oct 2023 – Present (intern Oct–Dec 2023) | Bengaluru*

Octopus | *Internal API Gateway & Control Plane*

- Built and own Octopus, a config-driven, plugin-extensible gateway fronting **∼400 internal and vendor integrations**; adding or changing an integration went from a code deploy to a config change.
- Sustained **99.99% availability over 30 months with zero Sev-1 incidents** on a revenue-critical path: every vendor call in FinBox's lending journeys (e.g. PAN verification) runs through Octopus, which also meters client usage for billing via OpenMeter.
- Built cost-aware vendor failover: a scorer ranks vendors on error rate, latency and cost from Prometheus, pulls failing vendors from the pool and restores them once healthy, **cutting vendor-outage impact by 70%** and **saving INR 20L/month**.
- **Reclaimed 10 TB of RDS storage** and cut database costs by **$24K/year** by offloading bloated webhook and workflow JSON payloads from PostgreSQL to S3.

DataDancer | *In-Memory Workflow Engine & JSON Transformer*

- Built DataDancer, an in-memory Go engine for the CNCF-backed Serverless Workflow spec, for short-lived workflows that don't need Temporal's durability; runs **10M+ workflows/day** across 4+ microservices with no orchestration infra to provision.
- Made workflows fully config-driven: pluggable activities with built-in OpenTelemetry tracing, and a JSON transformation layer that remaps data across schemas and calls APIs mid-transform. This replaced hand-written mapping code and deploys, **cutting new integrations from 3 days to 3–5 hours**.
- Migrated DataDancer's execution logs from PostgreSQL to ClickHouse, designing the schema around its query patterns (user/workflow/time sort key, bloom filter on run ID, ZSTD, 31-day TTL), **freeing ∼5 TB of RDS storage**.

Workflow Orchestration Platform | *Temporal-Based No-Code Process Engine* *Team of 5*

- Co-designed and built a no-code workflow platform: a Temporal-based engine for the same Serverless Workflow spec, plus a visual builder where **50+ application engineers** publish business workflows without backend changes; runs **1M+ workflows/day** and **cut new journey launches from 3 weeks to 1 week**.
- Shipped every engine change without breaking in-flight workflows by preserving Temporal's deterministic replay, enforced through a replay-test suite run against existing workflow histories.
- Built runtime guardrails (trigger-loop cooldowns, byte-level payload limits, cycle detection) so a misconfigured workflow throttles or terminates itself instead of starving other workflows.

Pickle | *Multi-Tenant Configuration Service*

- Extracted config management from the monolith into a standalone Go + gRPC service, replacing the duplicated, per-service config handling across 4 services with one shared platform.
- Added config versioning and scheduled activation, so teams can stage changes in advance and have them go live at a set time without a deploy.
- Built tenant isolation with namespace-scoped RBAC (read, write and namespace-admin permissions per user) and an audit trail of every config change.

Technical Skills and Interests

Languages: Go, SQL, TypeScript, JavaScript
Databases & Storage: PostgreSQL, ClickHouse, Redis, MySQL, MongoDB
AWS: EKS, Lambda, RDS, S3, SQS, SNS, EventBridge, ElastiCache, API Gateway, ALB, IAM, VPC, KMS, Secrets Manager, CloudWatch, ECR
Infrastructure: Kubernetes, Docker, Terraform, Helm
Distributed Systems: Temporal, Kafka, gRPC, GraphQL, Serverless Workflow (CNCF)
Observability: OpenTelemetry, Prometheus
Interests: Distributed Systems, Database Internals

Education

Vellore Institute of Technology, Bhopal *Bhopal, India*
B.Tech in Computer Science Engineering & Specialisation in AI & ML; CGPA: 8.5 Aug 2020 – Jul 2024