

CHEN SIYU (Corey)

Backend Engineer (Go) — distributed systems, Kafka, MySQL/Redis, data consistency

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SUMMARY

Backend engineer (Go) with 2+ years building event-driven microservices for a multi-tenant B2B platform: ~20 services, ~100K end users. I'm strongest at keeping data correct under failure: idempotent Kafka consumers, compensating transactions, durable Temporal workflows, and the MySQL + Redis data layer underneath them. I wrote the identity and configuration services from their first versions and was the largest contributor to six services. I write regularly about engineering and markets at coreyverse.dev.

EXPERIENCE

GoCode Pte. Ltd. — Singapore · Golang Full Stack Developer (backend-focused) · Mar 2024 – Jun 2026

Multi-tenant B2B SaaS platform (accounts, wallets, loyalty, partner networks) for consumer-facing digital businesses in Southeast Asia.

- **Event-driven consistency.** Wrote 10 Kafka consumers across 5 services for at-least-once delivery:
 - manual ack, then retry and dead-letter topics;
 - trace context carried in message headers;
 - deterministic idempotency keys enforced by unique indexes and carried through as the downstream wallet transaction ID.
- **Fixed an out-of-memory failure in a Kafka cascade** that pushes rebate rules and transaction limits down a multi-level partner network. The fix was top-down, keyset-paginated, throttled batches with a replay guard. I also migrated limits from int64 to decimals with a rehearsed data migration.
- **Co-led the move from in-process cron to Temporal**, and bootstrapped the scheduled-jobs service. Payouts became parent workflows that fan out one child per tenant, with retry policies and compensation on failed credits.
- **MySQL and Redis:**
 - replaced per-user aggregation queries with UNION ALL batches (500 users per round trip) routed across a 128-shard table on a read replica;
 - designed ~30 tables;
 - hardened the identity cache: singleflight, timeouts, bounded async pools with a synchronous fallback, and batched cache-miss loading.
- **Identity and gateway foundations**, written first in 2024:
 - closure-table hierarchy for a 10-level partner network;
 - three-tier MySQL → Redis → async cache sync;
 - Bloom-filter account de-duplication;
 - JWT sessions with server-side revocation;
 - most of the API gateway's middleware: auth, signing, allow/deny lists, tracing and metrics.
- **Observability:**
 - designed the platform-wide audit trail (Kafka contract, gRPC metadata and shared publisher), now used by 12 services;
 - built ECS logging with secret redaction, and OpenTelemetry helpers used in 20 repos;
 - found a production memory leak with pprof.
- **Built end to end:**
 - customer segmentation: 9 tables, 28 gRPC endpoints, plus a daily Temporal reclassification;
 - a call-centre CRM integration;
 - a partner OpenAPI with HMAC-SHA256 signing and compensating rollback across 4 services;
 - a Go + Next.js OpenProject ↔ Slack tool with a GitOps config store, delivered with AI coding agents.

TikTok Pte. Ltd. — Singapore · Backend Development Intern, storage infrastructure · Nov 2023 – Dec 2023

- **Made a cross-region object-storage replication service runnable on a laptop.** Its internal message queue, MySQL and document DB were swapped for open-source equivalents without changing business logic, using runtime function hooking (gohook) and adapter types.

- **Packaged it as a reusable internal Go library** with a one-line API per component. Shipped a Docker Compose stack, multi-stage Dockerfiles, a Kitex end-to-end test client and a user manual.

PROJECTS

- **go-reliability-patterns** (Go): three production patterns re-implemented from scratch, each with table-driven tests, race-detector runs, benchmarks and fuzzing:
 - log redaction with an allocation-free fast path;
 - a fail-closed per-tenant rule engine;
 - an idempotent at-least-once consumer.
- **coreytrading** (Python): an LLM-agent trading-operations system.
 - Claude and Codex act as reviewed agents over frozen, hashed evidence.
 - Writes go through a controlled writer with hash-based reconciliation.
 - ~121K lines, ~2,900 tests.
- **coreyverse.dev** (Astro, TypeScript): a static personal site and blog in 4 languages.
 - Posts are built from a public GitHub repo, with CI link checks.
 - Hosted on Cloudflare Pages.

SKILLS

- **Languages:** Go (primary), Python, SQL, TypeScript
- **Data and messaging:** MySQL (schema design, indexing, transactions, migrations, sharded queries), Redis, Kafka
- **Services:** microservices, gRPC/Protobuf, REST, go-zero, Gin, Temporal
- **Operations:** OpenTelemetry/Jaeger, Prometheus, pprof · Docker, GitLab CI, Kubernetes (working knowledge), AWS (S3)
- **AI-assisted engineering:** Claude Code, Codex, Cursor
- **Spoken:** English (professional), Mandarin (native)

EDUCATION

- **Nanyang Technological University**, M.Sc. Computer Control & Automation · 2022 – 2024
- **South China University of Technology**, B.Eng. Mechatronics Engineering · 2018 – 2022