

Dhiran Kumar Yadav

Senior Software Engineer (Go / Distributed Systems)

dhirantech@gmail.com — +91 7493029384
github.com/dhiran-gen — linkedin.com/in/dhiranyadav

SUMMARY

Backend and Distributed Systems Engineer with 4+ years of experience building and hardening high-scale, low-latency systems in Golang. Experienced in microservices, distributed ledgers, event-driven architectures, and high-availability platforms running on Kubernetes (GKE) and bare-metal infrastructure.

Strong focus on performance optimization and failure-resilient design — implementing batching strategies, retry classification, idempotent flows, fallback mechanisms, and defensive concurrency control to ensure system stability under real-world production stress.

Expanding into AI systems engineering, developing tool-augmented LLM agents and embedding-based retrieval pipelines (Qdrant, Weaviate) for intelligent observability and automation workflows.

Deep understanding of production behavior, edge cases, and system degradation patterns — designing code with reliability, fault tolerance, and operational clarity as first principles.

SKILLS

- **Languages:** Go, Rust, Java, TypeScript, Python, C/C++, Bash
 - **AI / LLM Engineering: Models & Frameworks:** Claude (Opus/Sonnet), Gemini Pro, GPT-5.3 Codex, Llama 3, LangChain, LlamaIndex
 - **Architecture:** Tool-Augmented LLM Agents, Structured Function Calling, RAG Pipelines, Prompt Engineering, Agentic Workflows
 - **Vector Infrastructure:** Qdrant, Weaviate, Embeddings-based Retrieval, Semantic Search, Metadata Filtering, Semantic Caching
 - **Backend:** gRPC, Protobuf, REST, WebSockets, Kafka, RabbitMQ, Gin, Echo, Mux, Hyperledger Fabric
 - **Databases:** PostgreSQL, MySQL, MongoDB, Redis/KeyDB, LevelDB, YugabyteDB, Elasticsearch, CouchDB
 - **DevOps:** Docker, Kubernetes (GKE), Terraform, Jenkins, GitHub/GitLab Actions, Grafana, Prometheus, Git/Bitbucket
 - **Cloud:** GCP, AWS
 - **Operating Systems:** Linux, MacOS, Windows, FreeBSD
 - **Infrastructure & Clustering:** Bare-metal orchestration, VM lifecycle automation, high-availability clustering, node failover, health-check APIs
 - **Other Tools:** Selenium, PiKVM (custom API wrappers), System Hardening (logging, FS restructuring), Microservices, Distributed Systems, Event-Driven Architecture, Raft, Unit Testing, Jira, Swagger/OpenAPI, Postman, Figma, Draw.io
- EXPERIENCE (4+ YOE)

- **Spydra Technologies Pvt Ltd, Hyderabad** Dec 2022 – Present
Senior Software Engineer (Dec 2023 – Present) — *Software Engineer (Dec 2022 – Nov 2023)*
 - **Retail CBDC Platform (Go, Distributed Systems, Kubernetes)**
 - * Joined a live production CBDC backend and led a full-scale refactor across **creation, issuance, redemption, and transfer** flows, simplifying execution logic and reducing latency from **4s to 200ms (20× improvement)**.
 - * Eliminated N+1 DB calls and introduced batching; re-architected batch processing with **idempotent retries, fail-safe handling, retry classification, and fallback strategies** to prevent double-processing and improve production resilience.
 - * Optimized concurrency control and execution sequencing, reducing lock contention and improving throughput stability under load.
 - **Certificate Depository (Hyperledger Fabric, Go, GKE)**
 - * Delivered a **production-grade certificate depository** on a multi-org Fabric network; implemented end-to-end certificate lifecycle with tamper-proof audit logs.
 - * Automated infra with Helm/Terraform and containerized peers/orderers, reducing rollout time by **60%** and eliminating config drift.
 - * Built CI/CD pipelines to sign, approve, and upgrade chaincode with rolling restarts, reducing change lead time from **days to hours**.
 - * Added gRPC/REST APIs and Grafana dashboards for latency, block height, and WAL metrics to improve MTTR.
 - * **Improved chaincode execution efficiency by 30%** through endorsement policy tuning and state access optimizations.
 - **Cross-Chain Bridge Service (gRPC, Redis/KeyDB, Kubernetes)**
 - * Designed a gRPC-based bridge enabling cross-network message relay and asset movement with **full idempotency guarantees** using durable TxID metadata.
 - * Implemented Redis pub/sub with backoff strategies, poison queues, and replay handling to ensure reliability across network partitions.
 - * Executed canary and blue/green rollouts on GKE to minimize blast radius during deployments.
 - * **Reduced message relay latency by 22%** by optimizing marshalling and persistent connection pooling.
 - **RSA Accumulator for Asset Verification (Go, Rust, K8s, GCP)**
 - * Implemented an L1 RSA accumulator to verify asset existence without full state sync; exposed a verifier service with sidecar caching for low-latency proofs.
 - * Added critical sections in **Rust**, rewriting heavy math routines to achieve **15× faster proof generation**.
 - * Tuned pod resources and Go GC (GOMEMLIMIT) to stabilize P99 latency during high verification load.

- * ****Reduced proof verification CPU cost by 35%**** through optimized batch-proof pipelines.
- **Cross-Border Payment Gateway (Go, YugabyteDB, Distributed Systems)**
 - * Built a cross-border remittance gateway supporting FOR/FIR flows across multi-country SAPs, gateways, IPS networks, and settlement layers with full orchestration from Create → Recipient.
 - * Implemented schema-based data segregation in YugabyteDB and deterministic failure/reversal pipelines (CB_FAILED/CB_PROCESSED); improved end-to-end settlement throughput by **40%** via batch settlements and optimized RPC flow.
- **Bare-Metal Clustering Platform (FreeBSD/Linux, Go, VM Orchestration)**
 - * Engineered a bare-metal clustering platform supporting VM creation, scheduling, failover, auto-migration, and node-health orchestration, replacing VMware-like dependency.
 - * Integrated PiKVM with custom wrapper APIs for remote power control and hardware recovery; performed system hardening and automated provisioning workflows, reducing operational overhead by **50%**.
- **High-Throughput Distributed Ledger (Go, Dragonboat/Raft, Kafka, GKE)**
 - * Built a consensus-backed ledger using Dragonboat (Raft); doubled throughput using batching, async apply paths, and snapshot compaction.
 - * Tuned GOMEMLIMIT, WAL durability, and Raft pipeline stages to reduce P99 latency.
 - * Optimized snapshotting and replication strategy, reducing infra cost by ****76%****.
 - * ****Increased write throughput by 45%**** using multi-segment WALs and parallel log application.
- **ZopSmart, Bengaluru** Jan 2022 – Nov 2022
Software Engineer
 - * **Zopping – Multi-Store E-commerce Platform (Go, Microservices, GCP)**
 - Built a ****Dukaan-like e-commerce platform**** enabling businesses to create customizable online stores with custom domains.
 - Developed product, cart, checkout, order, and payment microservices with JWT auth and secure APIs.
 - Implemented dynamic catalog rendering, SEO-friendly routing, and seller dashboards with analytics.
 - ****Improved page load times by 35%**** via aggressive caching + db query optimization.
 - * **testpaper.app (Go microservices, Docker, CI/CD, GCP)**
 - Led backend development for high-scale exam platform used by thousands of concurrent test-takers.
 - Built rate-limited APIs, JWT auth, proctoring, and payments as independent services.
 - CI/CD pipelines enabled zero-downtime releases on GCP.
 - ****Reduced API latency by 28%**** through caching and SQL query optimization.
 - * **Performance & Tooling**
 - Performed load testing with JMeter and optimized hotspots across microservices.
 - Hardened error-handling and resilience patterns across distributed workflows.

AI SYSTEMS & PRODUCT ENGINEERING

- **Logistics Management Platform (Confidential, Go, Event-Driven Architecture)**
 - * Architected and built a multi-actor logistics system (order creation → allocation → dispatch → delivery) using asynchronous messaging, idempotent processing, and failure-compensating workflows.
 - * Designed scalable Go services with batching, retry-safe operations, transactional consistency, and observability instrumentation; fully tested and currently in pre-release deployment.
- **Streak — Privacy-First Habit Tracker (Chrome Extension) [Chrome Web Store]**
 - * Designed and developed an offline-first Chrome extension with local-only persistence for habit tracking, streak visualization, and private notes.
 - * Published on the Chrome Web Store with early global adoption (including users in the US and Vietnam); actively maintained and optimized for performance with zero external data transmission.
- **Sense — AI-Powered Log Observability Platform (Go, Qdrant, Weaviate, LLMs)**
 - * Built an AI-driven log analysis system using embedding-based retrieval (Qdrant, Weaviate) and RAG pipelines to generate real-time incident summaries and root-cause insights.
 - * Implemented intelligent chunking, metadata-aware vector search, and token-aware context assembly to improve retrieval accuracy and reduce hallucinations.
- **CFO — On-Prem AI Financial Intelligence Assistant (LLMs, Secure Deployment)**
 - * Developed a deployable on-prem AI assistant capable of answering executive-level financial queries using structured retrieval and controlled LLM reasoning over proprietary datasets.
 - * Designed secure ingestion and local processing pipelines to ensure data isolation and enterprise-grade confidentiality; demonstrated at a Google-hosted large-scale hackathon event.

EDUCATION

- **National Institute of Technology (NIT), Agartala** 2018 – 2022
Bachelor of Technology, Production Engineering