Ritik Chawla

chawlaritik@gmail.com | +91 8743844765 | New Delhi, India
ritikchawla.vercel.app | linkedin.com/in/ritikchawla | github.com/ritikchawla

Experience

GoTo Group (Gojek) Aug 2024 – Present
Software Engineer 2 *Gurugram, India*

- Designed **Internal Developer Portal** backend in Go with service discovery APIs, **topological sort** for dependency graph resolution, and health aggregation serving **200+ engineers** with under **100ms P99 latency**.
- Built **semantic search system** using OpenAI embeddings stored in vector DB, implementing RAG pipeline with chunking, context retrieval, and re-ranking achieving **85% query accuracy** on internal docs.
- Developed **certificate management service** with async job scheduler using priority queues, exponential backoff retries, and finite state machine tracking 500+ certificates with **99.9% renewal success rate**.
- Implemented **OAuth 2.0/OIDC authentication layer** with JWT validation, RBAC policies, and token introspection, reducing auth-related incidents by **80%**.
- Built **real-time metrics aggregation** service consuming events from Kafka, computing service health scores, and exposing Prometheus endpoints for **500+ microservices**.
- **Led 2-week bootcamp** in Jakarta teaching distributed systems, API design patterns, and Go best practices to junior engineers.

MAQ Software Jul 2022 – Aug 2024
Software Engineer *Noida, India*

- Built **data ingestion service** processing **500K+ records/day** with producer-consumer architecture, concurrent workers with semaphore-based rate limiting, and circuit breakers for fault tolerance.
- Designed **multi-tier caching** (Redis L1 + local L2) with cache-aside pattern and TTL invalidation.
- Developed **ETL pipeline** with PySpark processing 10TB+ datasets, using broadcast joins for dimension tables and partition pruning for **50% faster** query execution.
- Optimized **slow SQL queries** by analyzing execution plans, adding composite indexes, and rewriting N+1 queries with batch fetching, reducing P95 latency by **70%**.

Technical Skills

Languages: Golang, Python, C++, SQL
Core: Data Structures, Algorithms, System Design, Distributed Systems, Concurrency
Technologies: PostgreSQL, Redis, Kafka, gRPC, REST APIs, Docker, Kubernetes, AWS, GCP, Vault

Projects

MiniDB: SQL Database Engine | *Golang*

- Built SQL database with **B+ tree index** (O(log n) lookups), custom query parser using recursive descent, and WAL for crash recovery.
- Implemented **MVCC** with snapshot isolation, deadlock detection via wait-for graph cycle detection, and optimistic concurrency for read-heavy workloads.

DNS Resolver | *Golang*

- Built **recursive DNS resolver** implementing RFC 1035 protocol parsing, iterative resolution, and concurrent query handling with goroutines.
- Implemented **LRU cache** with TTL expiration for response caching, reducing average resolution time by 60% for repeated queries.

Distributed Task Queue | *Golang, Redis*

- Built distributed task queue with **Redis-backed persistence**, supporting delayed tasks, retries with exponential backoff, and dead-letter queues.
- Implemented **worker pool** with configurable concurrency, task prioritization using sorted sets, and exactly-once execution guarantees.

Education

Guru Gobind Singh Indraprastha University Aug 2018 – July 2022
Bachelor of Technology in Computer Science *CGPA: 9.16/10.0*