HOANG XUAN VIET

Software Engineer | Golang Specialist

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PROFESSIONAL SUMMARY

Software Engineer with 5+ years of expertise in architecting **High-Scalability** and **Data-Intensive** systems using Golang. Specialized in building distributed systems, optimizing **Elasticsearch** for complex search requirements, and designing **Event-Driven Architectures**. Proven track record at Hasaki.vn in solving complex algorithmic problems (Payroll Engine) and integrating high-throughput AI services. Deep understanding of Go internals (Concurrency, Memory Management) and Database Optimization.

CORE TECHNICAL SKILLS

Languages & Core: Golang (Advanced Concurrency, Profiling), PHP, Python (AI Integration)
System Design: Microservices, CQRS, Event-Driven, Clean Architecture, Domain-Driven Design (DDD)
Data & Search: MySQL (Optimization), PostgreSQL, **Elasticsearch** (Deep Dive), Redis (Cache/Queue)
Infrastructure: Docker, Kubernetes (K8s), AWS S3, CI/CD Pipelines (GitLab CI)
Security: OAuth2, JWT with Device Fingerprinting, AES Application-Level Encryption

PROFESSIONAL EXPERIENCE

Software Engineer | Hasaki.vn

March 2024 - Present Ho Chi Minh City, Vietnam

Project 1: Enterprise Dynamic Payroll Engine (Core Banking/Fintech logic)
Role: Core Backend Developer

- **Graph-Based Calculation Engine:** Engineered a dynamic payroll engine using **Directed Acyclic Graph (DAG)** and **Topological Sort (Kahn's Algorithm)** to resolve complex dependency chains (Gross → Tax → Net) for 6,000+ employees.
- **Parallel Execution Optimization:** Optimized the calculation process by implementation **Parallel Execution** for independent components within the same topological level, reducing total processing time by **40%** compared to sequential processing.
- **Bank-Grade Security:** Implemented **Application-Level AES Encryption** for sensitive salary data and **Device Fingerprinting** embedded in JWT tokens to prevent session hijacking and replay attacks.
- **High-Performance Architecture:** Designed the system using Clean Architecture, ensuring separation of concerns and testability, achieving <200ms response time for complex payroll queries.

Project 2: AI-Powered Recruitment Platform (High Traffic/Search Intensive)
Role: Core Backend Developer

- **CQRS with Elasticsearch:** Designed the search architecture using **CQRS pattern**, utilizing Elasticsearch as a Read-Model with optimized **Multi-field Mappings** and **Custom Analyzers** for Vietnamese text, achieving **<50ms latency** for complex candidate queries.

- **AI Orchestration Layer:** Built a robust **Orchestrator** service in Go to manage AI workloads, utilizing **In-Memory Worker Pools** and **Redis Queues** to throttle concurrent requests and prevent **OOM (Out of Memory)** during traffic spikes (100k+ req/day).
- **Event-Driven Sync Strategy:** Implemented a reliable data synchronization mechanism (MySQL → Elasticsearch) using **Transactional Outbox Pattern** (planned) and asynchronous background workers with retry policies to ensure **Eventual Consistency**.
- **Resiliency Patterns:** Integrated **Circuit Breakers** and **Rate Limiting** at the Gateway level to protect downstream AI Python services from overload, ensuring system stability under heavy load.

Full Stack Developer | Thien Hai Software

February 2021 - March 2024 Ho Chi Minh City, Vietnam

- **SAFCO Manufacturing ERP:** Built a high-throughput manufacturing tracking system using **Redis Pub/Sub** for real-time inventory updates, reducing data latency by 90%.
- **VTEC WMS (Warehouse Management):** Optimized complex SQL queries and implemented **Database Indexing strategies**, improving report generation speed by **80%** (from 30s to 5s) for large datasets.
- **INTERSHOP Distributed System:** Designed a fault-tolerant sync mechanism for 15+ retail branches using RabbitMQ, ensuring data consistency across unstable network conditions.
- Mentored 3 junior developers on Golang best practices, concurrency patterns, and code review standards.

EDUCATION

University of Information Technology (VNU-HCM) *2025 – Present*
Bachelor of Engineering in Artificial Intelligence **BKACAD Academy of Information Technology** *2018 – 2023*
Associate Degree in Computer Science | GPA: 3.2/4.0