

# WENZHENG HOU | GO BACKEND ENGINEER

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## EDUCATION

**Guangzhou University**    B.S. in Computer Science    Sep 2019 – Jun 2023  
CET-6 (602/710), National Collegiate Algorithm Design & Programming Challenge (Silver Award)

## TECHNICAL SKILLS

- **Languages & Frameworks:** Proficient in Go with Gin/GORM; understanding of concurrency model (Goroutine) and memory management (GC); hands-on experience with Vue.js for full-stack development.
- **Databases:** Knowledge of MySQL and SQLite indexing and optimization; familiar with Redis data structures, persistence mechanisms, and solutions for cache avalanche, penetration, and breakdown.
- **Middleware:** Experienced with NSQ message queue, handling message loss/duplication issues; familiar with Kafka and RabbitMQ for various use cases.
- **Tools:** Git for version control, Linux environment and Shell scripting; proficient in AI-assisted development tools (Cursor, Claude).

## WORK EXPERIENCE

**Software Engineer @ Huiwei Intelligent Technology Co., Ltd.**    May 2023 – Present

### Private Cloud Storage System (NAS) Development

- **Cloud Services:**
  - Led NAT traversal architecture design, standardizing protocols across client, server, cloud, and relay endpoints for stable access.
  - Implemented NSQ for async event decoupling, enabling 30,000+ QPS high-concurrency writes.
  - Designed AES+RSA hybrid encryption for secure end-to-end communication.
- **Smart Document Center:**
  - Migrated from Elasticsearch to Bleve for memory-constrained environments; integrated GPT semantic expansion and caching for fast retrieval.
  - Built unified parsing engine for PDF/Office/ePub/Mobi/Markdown with automatic encoding detection.
  - Designed chunk-based indexing and aggregation algorithm for long documents, providing context-aware "search highlight snapshots".
- **File Index Synchronization System:**
  - Replaced fsnotify event-driven model with custom DFS+Queue architecture, reducing memory overhead by 90%+ in large-scale file scenarios while avoiding OOM risks.
  - Implemented SQLite-based state machine for incremental sync with file fingerprint comparison and priority scheduling.
  - Applied interface abstraction and Functional Options pattern to decouple sync logic from storage and I/O layers, enabling high-cohesion cross-project integration.
- **AI Photo Album:**
  - Implemented DBSCAN clustering for 10,000+ face library with 97.3% recognition accuracy.
  - Applied Strategy/Factory patterns for standalone and cloud-dependent retrieval modes.
- **Other Contributions:**
  - Developed and maintained Docker, VM, WebDAV, and ChatGPT projects for NAS ecosystem support.
  - Implemented rate limiting and Ristretto caching to handle traffic spikes; achieved 85% cache hit rate, reduced latency by 120ms.