Wenxu Guo

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Education

University of Melbourne - Master of Software Engineering	*Feb 2024 – Jan 2026*

Relevant Coursework: Software Architecture, Distributed Systems, Advanced Database Systems

North China Electric Power University - Bachelor of Information Security	*Sep 2019 – Jun 2023*

Relevant Coursework: Operating Systems, Data Structures & Algorithms

Skills

Languages: Golang (GMP model, GC internals), Java (JVM memory model, concurrency), Python (data processing, scripting, ML

Databases: MySQL (indexes, MVCC, query optimisation), Redis (ZSET, distributed locks, persistence) for caching and high-speed data access.

Frameworks & Tools: Spring Boot, Kafka, Django, Git, Docker, AI Coding Assistants (Copilot, Cursor, Claude Code, ChatGPT).

Machine Learning / GenAI: Prompt Engineering, LangChain, LangGraph, Retrieval-Augmented Generation (RAG), Transformer-based models (Hugging Face, OpenAI API), traditional supervised & unsupervised learning (regression, clustering).

Projects

FinanceAsyncFlow — Distributed Financial Data Processing Backend   *Jun 2024 – Nov 2024*

- Designed and implemented a two-layer distributed architecture (worker layer + flowsvr layer) to handle high-volume financial data analysis tasks, improving scalability and maintainability.
- Increased system throughput from 500 QPS to 2000 QPS by optimising sharding strategy, replacing MySQL row locks with Redis distributed locks, and later integrating MQ for horizontal scaling.
- Reduced task fetching latency by 40% through dynamic sharding based on data volume and multi-field scheduling logic, preventing scheduling conflicts and errors.
- Designed 3 decoupled database tables (task info, task config, task location) with sharding-friendly queries, improving query efficiency by ~35% on large datasets.

Xtimer Scheduled Task Platform — High-Precision Task Scheduling Microservice   *Nov 2024 – Apr 2025*

- Built a **microservice-based scheduling platform** using Spring Boot, Spring Cloud, Nacos, JWT, and Gateway, supporting millisecond-level task scheduling at scale.
- Achieved **millisecond-level precision** and stable performance under **10,000+ concurrent scheduled tasks** via Redis ZSET sharding and a two-level storage structure (MySQL + Redis).
- Reduced cache memory usage by **30%** through hot/cold data separation and automated migration jobs, improving system resource efficiency.
- Improved scheduling execution time by **~50%** with asynchronous routing, modular code design, and time segmentation, enhancing backend scalability and maintainability

GenAI Knowledge Extractor — LLM-powered Document Analysis   *Mar 2025 – Apr 2025*

- Built a prototype using **LangChain + RAG** pipeline to extract structured insights from unstructured documents (PDF/Word).
- Integrated **vector database** retrieval (FAISS/Chroma) for context injection, improving response relevance by ~35% compared to baseline prompting.
- Applied **prompt engineering** for multi-step question answering and evaluation metrics (accuracy, precision, recall) to validate performance

Profile

- Experienced in **high-concurrency** and **high-precision** backend solutions with measurable performance gains.
- Strong problem-solving skills and proven ability to work effectively in collaborative teams.