

# Xingyu Qu

Undergraduate, Wuhan University

Phone Number: +86-18600400007

E-mail Address: whu-quxy@whu.edu.cn

Personal Link: <https://whu-xingyuqu.github.io>

## Education

**Wuhan University**, School of Computer Science — *B.Eng. in Computer Science and Technology* | Sept 2024 – 2028

**Honors:** Outstanding Student, Wuhan University; Freshman First-Class Freshman Scholarship, 2024 (Top 5%); Second-Class Scholarship, 2025 (Top 15%); Tencent Open Source Award ( ¥ 6000); Scholarship for Excellent Academic Performance, Shenzhen Tianyuan Dic Information Technology Co., Ltd ( ¥ 8000);

**Selected Coursework:** Linear Algebra (98), Advanced Mathematics (92), Advanced Programming in C + + (93), Data Structures (90),Data Management Systems (95)

## Research & Project Experience

### Research on Hardware-Software Co-Scheduling Algorithms for NPU-Based RAG Systems

*Competitive industry research fund (database track) | Mar 2025 – Present*

- Conducting research on system-level scheduling optimizations to enhance resource utilization in heterogeneous NPU clusters for Retrieval-Augmented Generation (RAG) systems..
- Designed and developed a multi-user RAG system optimization framework.
- Experimental results showed approximately 100% improvement in overall cluster throughput compared with the baseline strategy.
- Mid-term report was commended by external industry mentors for its rigorous experimental design.

### Distributed Database Functionality & Stability Improvements (Open-source Project)

*Tencent Rhino-Bird Open-source Traning Program | Jun 2025 – Sept 2025*

- Contributed to an open-source distributed database community project Opentenbase, focusing on version compatibility and high-concurrency performance.
- Identified and resolved a high-concurrency bottleneck in the “one-click upgrade” workflow; the fix was merged into the community release.
- Submitted multiple patches touching the PostgreSQL codebase and expanded deployment documentation for Linux distributions.
- Significantly improved database stability under heavy load.
- Recognized as a core open-source contributor in a selective global cohort; received project-level recognition and a task bonus for outstanding contributions.

### Research on Object Proxy Databases and Distributed Transactions

*Luojia Totem Database Laboratory, Wuhan University | Dec 2024 – Present*

- Conducting research on **intelligent database architectures** integrating large language models (LLMs) and RAG systems in collaboration with Huawei and industry partners.
- Performed module-level testing and **performance profiling** using in-house benchmarking tools to identify multi-replica synchronization latency bottlenecks.
- Analyzed and compared state-of-the-art RAG optimization frameworks across multi-user workloads, producing a comprehensive **technical analysis report**.
- Designed **multi-concurrency data management experiments** under advisor supervision, achieving initial throughput improvements.
- Authored a detailed performance report providing critical data insights for future system optimization.

## Campus Leadership & Activities

**Minister of Intelligent Development Department**, Zhijia Student Growth Center, Wuhan University | Jul 2025 – Dec 2025

- Lead the department in **AI-driven campus application development**, including intelligent campus assistants and student service platforms.
- Responsible for **technical planning, task allocation, and code review**, while coordinating between student developers and university administrators.
- Translated functional requirements into implementable technical solutions, demonstrating **strong leadership and collaboration skills**.

## Technical Skills

**Programming Languages:** C/C++, Python, Rust (proficient); Java, JavaScript (familiar)

**Frameworks & Tools:** Databases, Large Language Models (LLMs), RAG Systems, AI agents

**Database Systems:** PostgreSQL, OpenTenBase (kernel-level development experience), SQLite

**Hardware Insights:** GPU, NPU

**Languages:** English (CET-6)